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To describe concurrent work-education programs in each of the 50 states, data were solicited from each state office by personal visit and from individual school districts by mailed questionnaire. Reports were made to the U.S. Office of Education by the states and reports made by individual school districts to state offices were utilized. Some findings were: (1) Mode enrollment in distributive education programs was 20 students, with a significant portion of the programs clustered in cities over 50,000, (2) The mode enrollment in business education programs was 18 students with programs concentrated in cities over 50,000 population, (3) The mode enrollment in trade and industrial cooperative programs was 25 students concentrated primarily in industrial centers, (4) Diversified occupations showed no relationship to population density and showed a mode student enrollment of 25, (5) 75 percent of the cooperative agriculture programs enrolled 12 or fewer students, (6) There were 2,451 schools with cooperative programs but no work study programs, and 1,823 schools with work study programs and no cooperative programs, and (7) Two-thirds of the schools with cooperative work-education programs had only one offering. Descriptions of student and program characteristics and a bibliography are included. A preliminary draft is available at VT 003 561. (DM)

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CONCURRENT WORK-EDUCATION

(Programs in the 50 States 1965-66)

ED023886

by
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U.S.O.E. Project 6-2851 report

VT006911

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Last but not least, we must acknowledge the efforts of the office staff (most of whom were undergraduate girls at the University of Illinois) who were of invaluable assistance throughout the project. I must especially acknowledge, in this area, Miss Anita Tripp.

William John Schill
Associate Professor

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CHAPTER I

INTRODUCTION

The data presented in this report represents two distinct aspects of vocational education: those programs that we have typically called cooperative programs and Work-Study as defined in Section 13 of Public Law 88-210. Some of the points to be made about cooperative education may sound truistic to vocational educators; be that as it may, it is noted that the data which are presented substantiate these truths. I would cite the following in this category: Distributive Education has the greatest number of cooperative programs and the greatest number of students in each and every state. Relative newcomers to cooperative education are Agriculture Education and Home Economics. To Home Economics the entire concept of occupational preparation and cooperative education is new. To Agriculture the cooperative education concept is a modification or replacement of the traditional on-the-farm project method of providing the student with work experience. Between Distributive Education and the newcomers, are such areas as Trade and Industrial Education and Diversified Occupations; these have a few years experience with cooperative education. In some states, notably Louisiana, labor pressures have forced the discontinuation of cooperative programs that involve the industrial occupations. Nevertheless, the over-all trend is for an increase in the number of programs and in the number of students in each program across all the areas of vocational education.

Cooperative Education

Cooperative education, a program wherein the students work part-time and study in a formal classroom setting part-time, is of long standing in United States public education. Although the genesis of this program came from the University of Cincinnati at the turn of the century and was related primarily to engineering education, it has grown to be popular in other fields of public education.

One of the desirable aspects of cooperative education is that education and work cease to be mutually exclusive of each other. There is some work involved in education; and it is readily recognized that there is some education in work. Although it has not been pinpointed (and this study will not attempt to pinpoint it), it has been hypothesized that there is considerably more attitude formation in the work environment than there is in the educational environment, at least attitude formation in terms of socially necessary attitudes for continued employment.

It must be recognized at the outset that one of the conditions that mitigates against rapid growth of cooperative education is the amount of effort necessary on the part of the professional staff in each school needed to locate employment stations and arrange working conditions for the students. Sometimes these arrangements have to be made over the objections of labor unions and in spite of considerable reluctance on the part of employers.

Work-Study

The Vocational Education Act of 1963, Public Law 88-210, had in it a section wherein the federal government would reimburse schools for employing students part-time in order to permit them to remain in school. The assumption herein is that there are a number of students from low-income families that could not remain in school unless they were able to earn a modest salary every month. During the year for which data are reported in this study, school year 1965-66, the federal government reimbursed the school districts (via the state offices) for the total expenditures in Work-Study. The total appropriation for Work-Study was modest in comparison to the amount of money spent for the school lunch program and other federally supported programs; but it was sufficient to generate a considerable amount of activity in the local school districts. The term Work-Study has connotations other than the one used in the Vocational Act of 1963; it is used in higher education acts and is used in various fashions by local districts. For the purpose of this study, only Work-Study in vocational education is included.

Concurrent Work-Education

The title of the report, Concurrent Work-Education Programs, is an attempt to use a term which is comprehensive enough to include a variety of vocational education activities. The term "concurrent work-education programs" includes all public high school and junior college programs that provide students with formal education and conjunctive work experience. This definition is broad enough to include programs encompassed by various other general titles in common usage such as Cooperative Education, Work Education, and Work Experience. More specific titles within the realm of concurrent work-education programs include: Distributive Education (D.E.), Office Occupations (O.O.), Diversified Occupations (D.O.), and many other but usually less universal titles such as Part-Time Industrial Cooperative Education and Agri-Business. Differences in usage of terminology did not eliminate programs from this study.

Methodology

This report is basically a descriptive report of the conduct or status of concurrent work-education programs (as per the above description) in each of the fifty states. The data were solicited from each of the state offices via personal visits to the states and from individual school districts via mailed questionnaire. It is recognized that each state submits a statistical report and a descriptive report to USOE every year concerning their programs. However, USOE is generally three years behind in processing these reports; and even then they are of necessity very brief and concern themselves mainly with the expenditures of federal monies. This report concerns itself primarily with the activities in which the students become involved.

Data Collection Procedures. Typically, the research staff arrived at the state department of education unannounced. The state superintendent and the state director of vocational education were contacted in that order and their approval for data collection was always readily given. Early attempts to set up appointments for data collection proved to be ineffectual since many of the vocational education staff spend much of their time in the field. Further, the information needed was always available from the secretarial staff and did not require the presence of area supervisors. This was the case not only with vocational education, but also with the superintendent's office from which general data about the schools in the state were obtained.

The data collection procedure involved the use of the reports made to USOE and in addition, and of considerable more importance, the reports made by the individual school districts to the state office. In instances where the school reports to the state offices were missing, the project staff solicited this information directly from the schools. The absences of reports from the schools most often resulted from large cities within the state functioning relatively independently of the state office. A case in point would be New York City which submits only gross reports to the state office in Albany.

The state superintendent's office usually had certain information desired by this project in published form, and occasionally the vocational education office had some of the information in published form; but most of the information had to be duplicated by the research staff.

In order to give some flavor to this report and better enable the author to present accurate descriptions of vocational education in each state, copies of the state plan for vocational education, annual descriptive reports, coordinators' handbooks and similar state publications were collected.

The questionnaire data to be reported herein were solicited from a random sample of the public high schools, junior colleges, and post-high school vocational schools via the mail. The sample was selected prior to the visits to the state offices so that general data would include those schools in the sample whether or not they had concurrent work-education programs plus all other schools which had concurrent work-education programs.

It has been hypothesized for many years that there are two kinds of vocational education programs. There are those that receive reimbursement for a portion of the cost from federal funds (data on these are generally conceived to be readily available); then there are others that are reimbursable for which the school elects not to claim reimbursement. As the consequence, there is no statewide or nationwide information available on non-reimbursable programs. One of the functions of the data collected on the random sample was to test this hypothesis.

Whereas, the data collection from the state offices required only that the project staff know precisely what it was they wanted and the appropriate offices to visit to get the information, the mailed questionnaire required careful development and two pilot studies to insure prompt, complete returns with reliable and valid responses.

In an attempt to insure a high percentage of response, the initial questionnaire required only the return of a self-addressed postcard (this instrument and all others appear in the appendix). The response solicited on this postcard was merely a check to indicate whether or not a given school had a reimbursed concurrent work-education and/or non-reimbursed CWE program. It is obvious that the collection of information about reimbursed programs was redundant since this information is available from the state offices. The advantage of the redundancy is that it provided a built-in reliability check.

Indiana was used for the first pilot study on the questionnaire. Each of the administrators who did not return the questionnaire was called to determine why he did not respond. Each was encouraged to be as candid as possible and care was taken to develop sufficient rapport. No less than 21 of the administrators said they "did not receive the letter or did not remember receiving it." Their replies were the only evidence available and forced the conclusion that somehow the questionnaire was not reaching the addressee (or his attention). Consequently, the revision dictated was to print "ATTENTION OF PRESENT HIGH SCHOOL ADMINISTRATOR" below the name and address on each envelope. The opening paragraph was revised and a quick re-mailing for non-respondents was planned. The second mailing (typical practice in mailed questionnaires) is based on the hypothesis that administrators inadvertently and intentionally consign some of their mail to the "this can wait pile" without inspection. The hope is that administrators will not be dead-ending quite as much mail on the day they receive the second mailing.

The Indiana pilot gave no evidence that the use of a postcard for return enhanced the return. As a consequence the second pilot on the questionnaire (sent to schools in Illinois) omitted the postcard and inserted instead a self-addressed envelope for returning the one page questionnaire. A second mailing and phone calls were both used with the non-respondents in the Illinois pilot. The phone calls led the project staff to conclude that the questionnaire was sufficiently refined for nationwide mailing. (The phone calls to non-respondents in Indiana and Illinois account for the one hundred percent return report for those two states.)

Variables, Coding, and Rationale. Consistent with this author's feelings about the function of research in relation to the graduate students employed, much of the data collected via the mailed questionnaire (see the appendix) and much of the information collected at state offices was for the benefit of the graduate students and not directly related to this report. The additions requested by the graduate students were honored in all cases in which the additions did not impose a hardship on the project or detract from the possibility of satisfactory returns.

The doctoral candidates employed on this project satisfied the requirement of doing independent research while gaining an apprenticeship via sponsored research. The project research and the research of the doctoral candidates were independent but related and any data collected for the candidates were collected without cost to the project.

The variables discussed in this section will be only those directly related to this report. Much of the information collected by the project staff will not be reported herein due to limitations in funds which prohibit detailed analysis of individual student data. (The funds for this project were cut 57% as the result of unexpectedly small congressional appropriations for vocational education research.)

Size of School: USOE collects and tabulates enrollment figures for schools such as junior colleges and area vocational schools. It is possible from published reports to get a picture of the relative size of these programs across the various states. However, this is not the case with high schools. There are a variety of high school organizations ranging from six-year schools to two-year schools. In order to have a uniform assessment of the student body size, this project tabulated the enrollment figures in grades ten, eleven, and twelve exclusively. The intent of this data was to differentiate as accurately as possible among schools by the size of student body. It was expected that the size of the student body would have an influence upon the number of programs that the school could offer. The reason for selecting the enrollments in grades ten, eleven, and twelve was to permit some consistency across all schools. There are a variety of school organizations ranging from those that include grades seven through twelve to those that include grades ten, eleven, and twelve only. In addition to the desire to be consistent in the interpretation of the size of the student body, there was also the recognition that CWE programs are by and large restricted to tenth, eleventh, and twelfth graders; in fact, they are restricted to twelfth graders only in many high schools.

As was mentioned above, it was expected that the size of the student body would have an influence on the offerings in the school. It was also expected that the organization of the district and of the school could have some effect upon the breadth of offerings. CWE programs are not easy to organize, develop, and maintain. It was hypothesized that the greater the range of administrative responsibility, the less likely that there would be CWE programs; for example, a school district where the superintendent is responsible for grades K through twelve might be less likely to have CWE programs than would a high school district where both the superintendent and principal had the administrative responsibility for grades ten, eleven, and twelve only. It was not expected that this scope of administrative responsibility would carry over to post-high school institutions, because they are unique in comparison to the high schools. The breadth of administrative responsibility in post-high school institutions is more commonly related to the objective of the institution; that is to say, area vocational schools have more precise and limited objectives than do the community colleges. For the above reasons the lowest and highest grades in the district and in the high school were recorded for each school in the study.

Enrollments in CWE Programs: The heart of this report involves the data collected about students enrolled in concurrent work-education programs. These data included (wherever possible) age, sex, grade, job assignment activities, and the hourly wage. It should be noted here that hourly wage was seen as an essential element in the work assessment. It is the conviction of the research staff that in order for a student to have a bonafide job experience, he needs to be working for an hourly wage and have the concomitant productive responsibility and accountability. This, of course, eliminates from this study project-oriented programs such as those conducted by Agriculture Education where the student works on the family farm and ends up selling the pig. Individuals and groups within otherwise acceptable CWE programs who were involved in the project-oriented programs were eliminated also.

Anyone inspecting our data on the number of Work-Study students and comparing it with the number of students reported by each state to the United States Office of Education, will find the "N" reported herein greatly depressed in comparison. The explanation of this difference is rather straightforward. This project assumed that the number of students actively involved in Work-Study at the time (at the end of the spring semester 1966) the data were collected would approximate the average daily number of students in Work-Study. It is not atypical for students to enter and drop out of Work-Study continuously through the year. States report the number of students who were involved regardless of the length of time they spend in the program.

Summer Work-Study programs occasionally have a far greater enrollment than the regular semester programs, and the summer programs for 1966 were reported for the fiscal year 1966. The research project ignores summer programs and this again contributed to the difference in "N" between our report and USOE reports. I would defend the project "N" used as more accurate and defensible than the USOE "N", because the "N" reported herein more closely approximates the average daily student membership in Work-Study throughout the 1965-66 school year.

Financing the Instructional Programs: In addition to the financial data available from the annual reports made to USOE, which give a rather detailed breakdown of the distribution of federal funds for vocational education, it was considered necessary to make an assessment of the financial capability of the individual schools. The predominant reason given for limited offerings particularly in vocational education is the lack of funds. Consequently, it was deemed necessary to make some evaluation of the money available for instructional purposes for each of the schools included in the study. This was accomplished in the following way: The states were ranked from one through fifty on the basis of data analyzed by the National Education Association. The differentiation within states was in terms of high, medium, and low categorization of the money available for instruction. The data used was dependent upon what was available from the individual state offices. When available, the average daily costs for instruction (not including capital outlays, debt retirement, and transportation) was used to divide the schools in the state into the three aforementioned categories. In instances where these data were not available more gross measures had to be utilized. The research staff is confident that as the result, we have the states ranked in terms of finances available for instruction and the schools within the states categorized on a similar basis.

Population Density: The states spend a considerable amount of time preparing reports for USOE on students enrolled in vocational education programs, but the identity of the individual schools is lost. In this study the identity was retained so that an assessment could be made of the population density of the area in which the schools were located. It was felt that to identify a high school, area school, or community college as residing within a given state was not sufficiently discriminating for the purpose of this study, since the variance within states almost equals the variance across states in terms of population density. For this reason, in addition to identifying each school within the sample and each school with CWE programs with their respective state, they were also identified with the city in which the school resided; and from this, it was possible to determine the population density of the area in which the school was located. The population density was coded according to the following criteria: The code of "1" was given those schools in the 25 large cities of the United States as identified by the Bureau of Census. These, of course, upon occasion, are more than one political entity such as the Minneapolis-St. Paul area. The code of "2" was assigned to the Standard Metropolitan Areas which also include upon occasion more than one political entity such as the Allentown-Bethlehem-Easton area of Pennsylvania. The code of "3" was assigned to cities over 50,000 that were not Standard Metropolitan Statistical Areas as per the census. A "4" was assigned to cities between 25,000 and 49,999; "5" to cities between 10,000 and 24,999; "6" to cities between 5,000 and 9,999; and "7" to those under 5,000. The intent of coding the school location by population density was to differentiate (although in a gross fashion) the large industrial complex from the smaller school locations, because it was felt that placement opportunities in cooperative programs might well be related to this factor.

Non-Reimbursed Programs: The intent of the questionnaire was to discover whether or not schools in the random sample had CWE programs which were reimbursable but for which they did not request reimbursement. This required that the respondents be given a definition sufficiently precise to permit them to interpret their offerings. All other questions on the questionnaire were either redundant in light of data available from the state office (as mentioned before) or were included as a service to the graduate students employed on the project.

Organization of the Report

About 1960, it was reported that there were over 1,500 concurrent work-education programs among 27,000 public high schools and an unknown number of programs in the more than 500 junior colleges in the United States. CWE data and methods of collection and reporting data differ from state to state. This report will attempt to systematize and consolodate the data that exist relative to concurrent work-education programs in the various governmental offices throughout the 50 states.

The data collection relative to concurrent work-education programs from the states and schools was considered to be slightly independent of data collection via mail questionnaires to the random sample; and as the consequence, these two shall be treated independently in each phase of the report. In addition, since the phase of concurrent work-education programs typically considered cooperative education, differs significantly from work-education programs supported under Section 13 of Public Law 88-210, these will be treated independently also.

CHAPTER II

WORK-STUDY

Conditions Set by Public Law 88-210

The simplest way to describe the conditions under which Work-Study programs can be operated is to quote from the Law. These stipulations are as follows:

> Work-Study Programs for Vocational Education Students
>
> Sec. 13. (a) (1) From the sums appropriated pursuant to section 15 and determined to be for the purposes of this section for each fiscal year, the Commissioner shall allot to each State an amount which bears the same ratio to the sums so determined for such year as the population aged fifteen to twenty, inclusive, of the State, in the preceding fiscal year bears to the population aged fifteen to twenty, inclusive, of all the States in such prepreceding year.
>
> (2) The amount of any State's allotment under paragraph (1) for any fiscal year which the Commissioner determines will not be required for such fiscal year for carrying out the State's plan approved under subsection (b) shall be available for reallotment from time to time, on such dates during such year as the Commissioner may fix, to other States in proportion to the original allotments to such States under paragraph (1) for such year, but with such proportionate amount for any of such other States being reduced to the extent it exceeds the sum the Commissioner estimates such State needs and will be able to use for such year and the total of such reductions shall be similarly reallotted among the States not suffering such a reduction. Any amount reallotted to a State under this paragraph during such year shall be deemed part of its allotment for such year.
>
> (b) To be eligible to participate in this section, a State must have in effect a plan approved under section 5 and must submit through its State board to the Commissioner a supplement to such plan (hereinafter referred to as a "supplementary plan"), in such detail as the Commissioner determines necessary, which--
>
> (1) designates the State board as the sole agency for administration of the supplementary plan, or for supervision of the administration thereof by local educational agencies;
>
> (2) sets forth the policies and procedures to be followed by the State in approving work-study programs, under which policies and procedures funds paid to the State from its allotment under subsection (a) will be expended solely for the payment of compensation of students' employed pursuant to work-study programs which meet the requirements of subsection (c), except that not to exceed 1 per centum of any such allotment, or $10,000, whichever is the greater, may be used to pay the cost of developing the State's supplementary plan and the cost of administering such supplementary plan after its approval under this section;

(3) sets forth principles for determining the priority to be accorded applications from local educational agencies for work-study programs, which principles shall give preference to applications submitted by local educational agencies serving communities having substantial numbers of youths who have dropped out of school or who are unemployed, and provided for undertaking such programs, insofar as financial resources available therefor make possible, in the order determined by the application of such principles;

(4) sets forth such fiscal control and fund accounting procedures as may be necessary to assure proper disbursement of, and accounting for, Federal funds paid to the State (including such funds paid by the State to local educational agencies) under this section;

(5) provides for making such reports in such form and containing such information as the Commissioner may reasonably require to carry out his functions under this section, and for keeping such records and for affording such access thereto as the Commissioner may find necessary to assure the correctness and verification of such reports.

(c) For the purposes of this section, a work-study program shall --

(1) be administered by the local educational agency and made reasonably available (to the extent of available funds) to all youths in the area served by such agency who are able to meet the requirements of paragraph (2);

(2) provide that employment under such work-study program shall be furnished only to a student who (A) has been accepted for enrollment as a full-time student in a vocational education program which meets the standards prescribed by the State board and the local educational agency for vocational education programs assisted under the preceding sections of this part, or in the case of a student already enrolled in such a program, is in good standing and in full-time attendance, (B) is in need of the earnings from such employment to commence or continue his vocational education program, and (C) is at least fifteen years of age and less than twenty-one years of age at the commencement of his employment, and is capable, in the opinion of the appropriate school authorities, of maintaining good standing in his vocational education program while employed under the work-study program;

(3) provide that no student shall be employed under such work-study program for more than fifteen hours in any week in which classes in which he is enrolled are in session, or for compensation which exceeds $45 in any month or $350 in any academic year or its equivalent, unless the student is attending a school which is not within reasonable commuting distance from his home, in which case his compensation may not exceed $60 in any month or $500 in any academic year or its equivalent;

(4) provide that employment under such work-study program shall be for the local educational agency or for some other public agency or institution;

(5) provide that, in each fiscal year during which such program remains in effect, such agency shall expend (from sources other than payments from Federal funds under this section) for the employment of its students (whether or not in employment eligible for assistance under this section) an amount that is not less than its average annual expenditure for work-study programs of a similar character during the three fiscal years preceding the fiscal year in which its work-study program under this section is approved.

(d) Subsections (b), (c), and (d) of section 5 (pertaining to the approval of State plans, the withholding of Federal payments in case of nonconformity after approval, and judicial review of the Commissioner's final actions in disapproving a State plan or withholding payments) shall be applicable to the Commissioner's actions with respect to supplementary plans under this section.

(e) From a State's allotment under this section for the fiscal year ending June 30, 1965, and for the fiscal year ending June 30, 1966, the Commissioner shall pay to such State an amount equal to the amount expended for compensation of students employed pursuant to work-study programs under the State's supplementary plan approved under this section, plus an amount, not to exceed 1 per centum of such allotment, or $10,000, whichever is the greater, for the administration of such plan after its approval by the Commissioner. From a State's allotment under this section for the fiscal year ending June 30, 1967, and for the next succeeding fiscal year, such payment shall equal 75 per centum of the amount so expended. No State shall receive payments under this section for any fiscal year in excess of its allotment under subsection (a) for such fiscal year.

(f) Such payments (adjusted on account of overpayments or underpayments previously made) shall be made by the Commissioner in advance on the basis of such estimates, in such installments, and at such times, as may be reasonably required for expenditures by the States of the funds allotted under subsection (a).

(g) Students employed in work-study programs under this section shall not by reason of such employment be deemed employees of the United States, or their service Federal service, for any purpose.

Work-Study Programs among the States

It was not the intent of this study to collect data about the intent of school districts to maintain or expand concurrent Work-Study programs; however, the unsolicited comments are worth reporting prior to reporting on the data.

To generalize across the states, it seems fair to say that there is a concentrated effort to expand concurrent work-education programs. This requires an investment of time to gain employment stations and to overcome difficulties with labor union restrictions; but the investment is made by individual teachers, often at the expense of their free time. Work-Study with its "make work" provisions is a different story. The states and the schools had great hope for this provision of Public Law 88-210, but no money to finance it. Therefore, it was expected that the required local contribution of 25% would bring about a decline in emphasis during the 1966-1967 school year. Questionnaire results showed a decline in the number of schools with Work Study for only five states, 30 showed an increase and 15 remained the same. There was a nationwide growth of 5.3% in the number of schools with work-study programs.

This was the first time vocational education money went to the student. It provided spending money, and more often than not provided schools and teachers with much needed assistance. Experience as a teacher's assistant may have induced many youngsters to consider teaching as their life-work.

A federal spending program that contributes almost all of the costs for roads, dams, etc., should be able to support (ever so modestly) the greatest resource of all--students. To support students within the social system of the school seems more defensible than to remove them (via the job corps) or engage them in social problems (via the N.Y.C.) with which they are already overburdened. It is pleasant to report that in public vocational education, the programs that are promoted by full federal support do not vanish as soon as the state or local educational agency is required to make a financial contribution.

Expenditures on Work-Study

During the school year, the 50 states spent in excess of $757 million on vocational education, of which slightly over $224 million came from the federal government. Of the money that came from the federal government, slightly over $20 million was spent on Work-Study. Another way of stating this would be that, of the total amount of money spent for vocational education among the 50 states, 29.7% came from the federal government; and the expenditures on Work-Study represent nine percent of this. If we look at the expenditures on Work-Study in relation to the total expenditures for vocational education, we find that approximately 2.7 percent of the money spent was used for Work-Study. The expenditures across states are reported in Table I and Table II of the appendix. The purpose of discussing the amount of money spent on Work-Study is to pinpoint its rather modest place in vocational education.

Schools with Work-Study Programs

Even though Work-Study was funded late and the school year 1965-1966 was the first year for this program, there were a total of 2704 schools across the United States that had operating programs during the school year.

Table A below presents the number of schools with Work-Study programs and with cooperative programs in the various areas of vocational education. The cooperative programs will be discussed later; the intent of the presentation of this table is to indicate the relationship between the existence of cooperative programs in the various services and Work-Study programs. The law stipulates that students enrolled in Work-Study must also be enrolled in a vocational program. Table A does not present the relationship between the existence of Work-Study and the existence of a vocational education offering, since it can be assumed that every school that had a Work-Study program also had some form of vocational education. The nature of the Work-Study program with its supervised work activity is very similar to cooperative programs, and the thought here is that the existence of cooperative programs with the concomitant personnel capabilities should have facilitated the establishment of Work-Study programs. The data indicate that only one-third of the enrollment in all cooperative programs was in schools which also had Work-Study. It is therefore obvious that a number of schools which previously had no programs of organized work activity for the students were encouraged to generate such a program by the Work-Study provision of Public Law 88-210.

Table A

Schools with Work-Study and Cooperative Programs

	N
Work-Study & Cooperative Agriculture Education	069
Work-Study & Cooperative T & I	289
Work-Study & Cooperative Distributive Education	634
Work-Study & Cooperative Business Education	261
Work-Study & Cooperative Home Economics Education	9
Work-Study & Cooperative Health Education	2
Work-Study & Cooperative Diversified Occupations	153

Enrollment in Work-Study

The combined enrollments in all of the schools with Work-Study programs totaled 1,932,050 students. Table B below presents the correlation between the enrollments in Work-Study and enrollments in other cooperative programs in the same schools. The number of pairs of enrollment figures differs for each correlation reported. These pairs are consistent with Table A, therefore, the probability level for each correlation is reported.

Table B

Correlations between Enrollment in Work-Study and Other Cooperative Programs

Work-Study & Agriculture Education	$r = -.12$	$P > .1$
Work-Study & T & I	$r = .38$	$P < .01$
Work-Study & Distributive Education	$r = .12$	$P < .01$
Work-Study & Business Education	$r = .17$	$.01 < P < .05$
Work-Study & Health Education		
Work-Study & Diversified Occupations	$r = -.07$	$P > .1$
Work-Study & Home Economics Education	$r = .13$	$P > .1$

Correlations were also computed between enrollments in Work-Study programs and selected demographic, economic, and organizational variables related to the individual schools. Because of the nature of the data, different correlation techniques were used in each case; however, with these variables, all 2704 Work-Study programs were included in the calculations.

Table C

Correlation of Work-Study Enrollments with Demographic, Economic, and Organizational Variables

Work-Study Enrollment &	Population Density or the School Location	r = -.26
Work-Study Enrollment &	Total Enrollment of the School	r = .24
Work-Study Enrollment &	The Lowest Grade in the District	r = .32
Work-Study Enrollment &	The Lowest Grade in the School	r = .19
Work-Study Enrollment &	The Rank Order of State on Expenditures for Education	r = -.23
Work-Study Enrollment &	Comparative Wealth of Schools within States	r = -.01

Correlation between Work-Study enrollment and population density, although differing in direction from the correlation between Work-Study and total enrollment, are indicative of the same thing. The reason for the difference in direction between the two correlations is the coding system used for population density, which was explained previously. Further verification of the similar meaning of the aforementioned correlation is the correlation between population density coding and total enrollment, which is equal to -.59. From these correlations, it is concluded that the large cities and large schools are more likely to have Work-Study programs than are the small schools in the smaller cities or towns.

The system used to inspect the school district organization and individual school organization was to correlate the lowest grade under the superintendent's jurisdiction and the lowest grade under the principal's jurisdiction with enrollment in Work-Study and the other variables. The district organization is related to population density and total enrollment with a correlation of -.19 and .32 respectively. The same is true for the school organization except that the correlations are slightly higher, being -.33 and .37 respectively. Therefore, the inspection of the relationship between the existence of Work-Study programs and school district organization is confounded because of the correlation of organization with population. It is possible that partial correlation might give some insight, but the descriptive nature of this report does not warrant such detailed statistical analysis.

The relationship between enrollments in Work-Study programs and the measures of school wealth showed that the states that have the greater amount of funds available for education are more likely than the poorer states to have taken advantage of the Work-Study provision of Public Law 88-210. Within the states, there is no relationship between the comparative wealth of school districts and the existence of Work-Study programs. The reader is cautioned against making any great conclusions as the result of these correlations, because poverty-stricken children can and do exist in even the wealthiest social setting and Work-Study is designed to serve them wherever they are. This does, however, indicate that the intent of the Work-Study provision to alleviate some pockets of poverty did not find realization.

There were approximately 18,000 high schools (schools offering grades ten, eleven, and twelve) in the United States during the school year 1965-1966. Of these, 2509 had a Work-Study offering. (See Table IV in the appendix for programs by states.) This represents 14% of the high schools. The total high school enrollment in grades ten, eleven, and twelve for the 1965-1966 school year was 8,575,000. The total enrollment of the high schools with Work-Study programs was 1,616,310 which is equal to 18.8% of the aforementioned total enrollment. The higher percentage of enrollment represented, as a contrast to the percentage of schools represented, is another indication that Work-Study programs were slightly over represented in larger schools.

There were 195 Work-Study programs operated by post-high school institutions; these included area vocational schools, community colleges, and technical institutions which were part of four-year colleges. Because of the diversity of these institutions, it is impossible to make any statements relative to the percent of institutions or the proportion of the enrollment represented in Work-Study programs.

There were 44,817 high school students enrolled in Work-Study programs and 7,418 post-high school students; these two combine for a total of 52,235 students in Work-Study programs. As would be expected, because of the requirements for enrollment in Work-Study, a small proportion of the total number of students enrolled in United States high schools were represented in the Work-Study programs; in fact, they represent .52% of the high school enrollment. Nevertheless, the growth in less than one year from no programs to 2709 programs with an enrollment of over 52 thousand students must be regarded as phenomenal.

Questionnaire Responses on Work-Study

In concluding this chapter, it is in order to discuss briefly the questionnaire responses. As was explained earlier in this report, a questionnaire was sent to a random sample of schools throughout the United States and information was solicited from these schools as to whether or not they had a Work-Study program. This was a redundant question since the project collected data from the state offices on all programs that existed during the 1965-1966 school year.

Analysis of the questionnaire responses in relation to existing enrollment data shows that there was agreement between the questionnaire responses and the state office data on 1216 responses out of the 1535 returned; or 79% of the responses agreed with the data collected from the state office. Of the remaining 21%, a sizable portion could not be resolved because the respondents may have answered that they had Work-Study programs in disagreement with the project data, because they had them during the summer only. However, there are 125 cases where schools received reimbursement for Work-Study programs and in the questionnaire response said "no, we did not have a Work-Study program during the school year 1965-1966." This is an error rate of eight percent. The error rate across states varied from zero percent in sparsely populated states with small schools to 14.6% in densely populated states with large schools. Errors of this magnitude could lead to the conclusion that still another nail has been driven in the coffin of mailed questionnaire studies. The error rate cited could also lead one to question the data supplied to state offices. This author is prone to blame mailed questionnaires.

Table D

Relationship of Questionnaire Responses to State Office Data

Programs Existing During
Academic Year 1965-1966

		YES	NO	
Questionnaire Responses	YES	161	194	355
	NO	125	1055	1180
		286	1249	1535

(1535 returns represent 83.6% of the 1836 questionnaires mailed)

CHAPTER III

COOPERATIVE WORK-EDUCATION

Objectives and Conditions

The Vocational Education Act of 1963 is permissive in terms of the states operating cooperative work-education programs. The operating conditions are specified in each state plan and thereby become the legal conditions governing the conduct of cooperative programs. There is overall agreement among the 50 state plans upon the requirements that cooperative programs must meet in order to be eligible for reimbursement. Two state plans are cited below -- California and Texas:

> California: Section 2.38-52: Cooperative Education Programs
>
> Cooperative education programs will be offered to provide occupational training for persons who, through a cooperative agreement between the school and the employer, receive related occupational instruction and on-the-job training through part-time employment.
>
> Training plans (preferably in writing) will be developed cooperatively between the school and employers. Such agreements will provide for: (a) the employment of student-learners in conformity with federal, state, and local laws and regulations and in a manner not resulting in exploitation of such student-learners for private gain (b) an organized program of training on the job (c) related occupational instruction in school.
>
> Student-learners will be paid the prevailing wage for part-time employment and will receive school credit for on-the-job training.
>
> Texas: Section 2.38-52: Cooperative Work Experience Programs
>
> Cooperative work experience programs shall be provided through cooperative arrangements between the school and employers in which students receive part-time vocational instruction in the school and on-the-job training through part-time employment.
>
> Such classes must be organized through cooperative arrangements in writing between the schools providing vocational instruction to student-learners in the class and the employers providing on-the-job training through part-time employment of such student-learners. Such arrangements

> shall provide for (1) the employment of student-learners in conformity with Federal, State, and local laws and regulations in a manner not resulting in exploitation of such student-learners for private gain, (2) an organized program of training on the job for a minimum average of fifteen hours per week, and (3) supplemental vocational instruction in school for an average of one class period per day.

The citations from California and Texas were selected because they represent the two areas of difference relative to conditions for cooperative education. All of the states require (quite naturally since a program could not exist without it) an agreement between the school, the student, and the employer. The only difference that exists is that some of the states require that this agreement be in writing and others do not stipulate that it must be in writing. California, as can be seen above, leaves the agreement optional, whereas Texas requires a written agreement.

Neither California nor Texas stipulate that the student must have released time during the school day for work. Five states do so stipulate and three of them specify that the student must be released five hours per week. All of the states require that there be supplemental, formal classroom instruction. Referring again to the citations above, California does not specify how many hours this need be; but Texas, as do five other states, stipulates that there must be five hours of supplemental instruction per week.

California is one of four states that specifies that the student will receive school credit for his on-the-job training. The rest, as does Texas, fail to mention credit for the work experience. Only three of the states, Connecticut, Florida, and Rhode Island, specify a minimum age for the student to participate in cooperative programs, and in each case this minimum age is 16 years.

Texas and nine other states require that the student be employed a minimum number of hours per week; for nine of the states this minimum is 15 hours; Nebraska, which also specifies a minimum, lists that minimum as ten hours per week.

Each and every state plan makes some mention of the wage that the student-learner must be paid. The California and Texas citations are the most common form used. Eight states elaborate upon the common wage requirements to require that the hourly rate paid the student must be consistent with the prevailing wage for a given occupation in the geographical area in which the student is working.

It is apparent from reviewing the 50 state plans that USOE has had a considerable influence on not only the structure of the state plan, but also on the terminology used in preparing it. The objectives of cooperative work-education are inherent in the conditions cited above; the overriding objective stated in descriptive literature from the states and specified in Public Law 88-210 is to prepare a student for gainful employment.

Cooperative Work-Education Programs among the States

There were a total of 4800 cooperative work-education programs among the various states during the 1965-1966 school year. This does not mean that there were 4800 individual schools with cooperative programs, because that is not the case. However, the 4800 figure is more representative of the opportunity for cooperative work-education experience offered to United States high school students than are the figures reported by USOE. USOE generally reports on the number of coordinators and often times, especially in Distributive Education where the enrollment is high, there will be more than one coordinator to a school. Before discussing in detail the distribution of cooperative work-education programs among the states and among the areas of vocational education, it is in order to present briefly a relationship between cooperative programs and the Work-Study programs discussed in the previous chapter. Table E below shows the enrollment in cooperative programs for the various vocational services dichotomized on schools with Work-Study and schools without Work-Study.

Table E

Enrollments in Cooperative Work-Education Programs by Service Across Work-Study and No Work-Study High Schools

	Work-Study	No Work-Study
Agriculture	550	2,489
T & I	7,238	15,652
Distributive Education	15,966	41,513
Business Education	6,357	11,498
Home Economics Education	136	440
Diversified Occupations	5,289	10,014
Totals	35,537	81,606

The enrollments by services and in total again indicate that although there is some overlap, there is a different segment of the school population being served by Work-Study and cooperative work-education respectively.

An additional point to be handled here is the matter of cooperative work-education programs in the Health Occupations. The Health Occupations typically have clinical experience as part of their education program. The clinical experience satisfies many of the conditions of cooperative work-education, but because these occupations have been studied in depth and described in detail by other research reports, they are not considered as part of this study, with the exception of two programs in Connecticut which had a bonafide cooperative work arrangement for their students in the Health area. These two programs are cited here and will receive no further mention in this report.

Granted that each of the services in vocational education has something unique to offer students in cooperative programs, there is undoubtedly more difference between cooperative programs and other vocational education programs than there is difference among the cooperative programs of the various services. This is to suggest that a cooperative program, particularly a Diversified Occupations program, is a unique offering in any school. Roughly two-thirds of the schools that had a cooperative offering had only one such cooperative; about 22% had two cooperative programs; approximately nine percent had three cooperative programs operating concurrently; a few had four, but no school had more than four programs. Table F shows the pairings of cooperative programs; that is the schools that have for example both Agriculture and Distributive Education or both Agriculture and Diversified Occupations.

Table F

Pairs of Cooperative Programs

	Ag	T & I	D.E.	B.E.	H.E.	D.O.
Agriculture	296					
T & I	37	926				
Distributive Education	51	560	2193			
Business Education	29	318	564	846		
Home Economics Education	0	11	25	9	38	
Diversified Occupations	3	68	144	82	8	515

Before discussing the separate offerings, the relationship between some of the demographic variables and cooperative programs in general will be discussed briefly. A contingency coefficient derived from a chi-square frequency table indicates a value of c = .39 as a measure of relationship between the number of cooperative education programs in a given school and the population density of the locality in which the school resides. This is sufficiently large to demonstrate that the larger schools in the larger cities are more likely than smaller schools to have one or more cooperative programs.

The wealth of the state in terms of its ability to support education is correlated with population density and total enrollment in the school. These in turn, are correlated with the existence of cooperative programs. Therefore, even though the contingency coefficient c = .55 is large for a measure of association between the wealth of the state and the existence of cooperative programs, there are a number of confounding variables associated with this contingency. When the existence of cooperative programs within the state is tested for relationship with the differential wealth of the school district within that state, the contingency coefficient decreases; c = .13. In Table F above, the pairs of cooperative offerings were shown. Table G below gives the correlation between enrollments in these pairs.

Table G
Correlations between Enrollments
in Cooperative Programs

	Ag	T & I	D.E.	B.E.	H.E.	D.O.
Agriculture						
T & I	.13					
Distributive Education	.23	.35*				
Business Education	.29	.55*	.41*			
Home Economics Education	.00	.93*	-.22	-.41		
Diversified Occupations	-.26	.49*	.12	.09	.99*	

* Significant beyond .01

The significant correlation between Distributive Education and Business and Office Occupations is quite a natural relationship, since both programs concentrate on placing students in sales-oriented enterprises. Although Home Economics cooperative enrollments are significantly correlated with enrollments in T & I and Diversified Occupation, the N, as seen in Table F, is small; and as a consequence, there is nothing much to be said about these correlations. It is very common for T & I supervisors to have responsibility for the establishment and operation of Diversified Occupations programs. It is therefore not unexpected that there is a significant correlation between the enrollments in these two programs. The significant correlation between the enrollments in T & I and cooperative Distributive and Business and Office Occupations programs is undoubtedly due to the existence of all three of these in the major population centers of the United States; whereas the lack of significant correlation between the enrollments in cooperative Agriculture and the other services seems to reinforce the ideathat Agricultural cooperative programs are found more often in the smaller, less densely populated areas.

The discussing of cooperative programs across the services, will start with Distributive Education because it has the largest enrollment, and treat the programs in order of descending enrollment.

Cooperative Distributive Education

Distributive Education has the longest history of involvement with cooperative programs. It also has the greatest number of programs (a total of 2193 across all of the states), and the largest total enrollment of 59,893 of which 47,479 students are in the high school. (For a distribution of Distributive Education programs across the states, see TABLE IV in the appendix.)

The enrollments in cooperative Distributive Education programs were correlated with population density, total enrollment of the school, school district organization, school organization, rank order of wealth of the state, and the comparative wealth of the schools within the state. (See Table H). Of these correlations, the first four are significant and indicate again that Distributive Education programs are found in large cities, in schools with large enrollments, and in school districts and high schools that have a narrow range of administrative responsibility. There is, however no significant correlation between the enrollments and the wealth of the state or of the particular school districts within the state.

Table H

Correlation of Distributive Education Enrollments with Demographic, Economic, and Organizational Variables

Distributive Education Enrollments & Population Denstiy or the School Location	r= -.21
Distributive Education Enrollments & Total Enrollment of the school	r= .25
Distributive Education Enrollments & The Lowest Grade in the District	r= .13
Distributive Education Enrollments & The Lowest Grade in the School	r= .16
Distributive Education Enrollments & The Rank Order of State on Expenditures for Education	r= -.03
Distributive Education Enrollments & Comparative Wealth of Schools within the States	r= -.03

Cooperative Trade and Industrial Education

T & I, with 923 programs in the 50 states with a total enrollment of 23,845 of which 22,890 students were in high schools, is second to Distributive Education in size. It is also second in terms of the length of involvement in cooperative programs. The correlation of enrollments in T & I programs and demographic, economic, and organizational variables is presented in Table I. The pattern and the interpretation of these correlations would be the same as those for Distributive Education, with the exception that the correlation between school district organization and T & I enrollments is not sufficiently high to be significant at the .01 level. This lack of relationship between the grade span of the district and enrollments in T & I programs may result from the relationship of T & I in general to industrial arts programs which exist across elementary and high schools.

Table I

Correlation of Trade and Industrial Education Enrollments with Demographic, Economic, and Organizational Variables

T & I Enrollment & Population Density or the School Location	r= -.27
T & I Enrollment & Total Enrollment of the School	r= .19
T & I Enrollment & The Lowest Grade in the District	r= .02
T & I Enrollment & The Lowest Grade in the School	r= .11
T & I Enrollment & The Rank Order of State on Expenditures for Education	r= -.04
T & I Enrollment & Comparative Wealth of Schools within States	r= -.05

Cooperative Business and Office Occupations' Education

Cooperative programs in Business Education (henceforth Business Education is being used and interpreted to include Office Occupations) were newer on the educational scene than either Distributive Education or T & I. They do, however, exist in 29 of the 50 states with a total of 846 programs and an enrollment of 18,248 students. As was the case with the cooperative programs discussed previously, by far the major portion of the enrollment is in high schools. In this case, Business Education has 17,855 students enrolled in cooperative programs in high schools. The correlations of enrollments with other schools and social data are presented in Table J. The pattern of correlations for cooperative Business Education follows that of T & I, except that in this case there is a significant correlation between the comparative wealth of the schools within the states and the enrollment in cooperative Business Education programs.

Table J

Correlation of Business Education Enrollments with Demographic, Economic, and Organizational Variables

Business Education Enrollment &	Population Density or the School Location	r= -.30
Business Education Enrollment &	Total Enrollment of the School	r= .34
Business Education Enrollment &	The Lowest Grade in the District	r= -.04
Business Education Enrollment &	The Lowest Grade in the School	r= .18
Business Education Enrollment &	The Rank Order of State on Expenditures for Education	r= -.06
Business Education Enrollment &	Comparative Wealth of Schools within States	r= -.14

Cooperative Diversified Occupations

Diversified Occupations, a relatively new program typically has a strong relationship to cooperative T & I. The reader is to be reminded here that Diversified Occupations is not necessarily the term used in all of the states, but it seemed to be the term most applicable to programs in which students were not restricted to employment in areas which could not be categorized according to a specific vocational education area. Diversified Occupations programs exist in 18 states in which there are a total of 515 schools with programs and a total student enrollment of 15,540. Table K presents the correlations between variables in the same fashion as they have been presented for the previous cooperative programs. In this instance, district organization and the comparative wealth of schools are not significantly correlated with enrollment in Diversified Occupations.

Table K

Correlation of Diversified Occupations Enrollment with Demographic, Economic, and Organizational Variables

Diversified Occupations Enrollment &	Population Density or the School Location	r= -.37
Diversified Occupations Enrollment &	Total Enrollment of the School	r= .44
Diversified Occupations Enrollment &	The Lowest Grade in the District	r= -.01
Diversified Occupations Enrollment &	The Lowest Grade in the School	r= .14
Diversified Occupations Enrollment &	The Rank Order of State on Expenditures for Education	r= -.14
Diversified Occupations Enrollment &	Comparative Wealth of Schools within States	r= -.11

Cooperative Agriculture Education

Cooperative programs in Agriculture and Home Economics are a very recent vintage. Home Economics has only 38 programs in seven states with a modest enrollment of 624 students; therefore, it is not being discussed. Agriculture, however, has a total of 296 programs with an enrollment of 3,235 students in 11 states. With the exception of Michigan, all 11 of the states are noted for having large agricultural enterprises, and the existence of cooperative programs in Agriculture Education seems to make good sense.

As was discussed earlier, cooperative Agriculture programs stand alone in terms of their location in the school districts within the states. Following the pattern of presenting correlations between cooperative enrollments and selected variables, these correlations will be found for cooperative Agriculture in Table 1. The only significant correlation is between the organizational structure of the district and enrollment in cooperative Agriculture. The lack of a significant correlation with population density, wealth of the state, and wealth of the school reinforces the earlier comments that cooperative Agriculture programs are more likely to be found in the smaller schools in the smaller towns.

Table L

Correlation of Agriculture Education Enrollments with
Demographic, Economic, and Organizational Variables

Agriculture Education Enrollment &	Population Density or the School Location	r= -.06
Agriculture Education Enrollment &	Total Enrollment of the School	r= .14
Agriculture Education Enrollment &	The Lowest Grade in the District	r= .18
Agriculture Education Enrollment &	The Lowest Grade in the School	r= .07
Agriculture Education Enrollment &	The Rank Order of State on Expenditures for Education	r= .09
Agriculture Education Enrollment &	Comparative Wealth of Schools within States	r= -.05

Questionnaire Responses on Cooperative Work-Education

As was mentioned before, 1836 questionnaires were sent to a random sample of schools in the United States. Of these, there were 1757 high schools and 88 post-high school institutions. The 1757 represents 9.3 percent of the 1876 public high schools in the United States during the academic year 1965-1966. Of the mailed questionnaires, 1535 were returned, of which 425 indicated they had reimbursed cooperative education programs.

To extrapolate from the sample to the total population would lead to the conclusion that over 4000 high schools had cooperative vocational education programs during the school year 1965-1966 and that an additional four percent instituted new cooperative programs during the 1966-1967 school year. Following the same extrapolation procedures from questionnaire data leads to the conclusion that there were over 1800 schools with reimburseable programs for which they did not request reimbursements.

According to the data collected from state offices, there were 3333 individual institutions with reimbursed cooperative vocational education programs during the school year 1965-1966. As was suggested in the brief discussion of questionnaire responses to work-study programs, the discrepancies between the questionnaire data and the state office data may well be due to the inherent shortcomings of mailed questionnaires regardless of how well they are structured.

Much of the data from state offices were in fact questionnaire data in that the schools responded to the state office requests for information about their programs. The project staff considered information about the students job assignment, career aspirations, hours worked, and wages so suspect that these data were not tabulated. However, throughout this report it is assumed that the names of students enrolled in cooperative programs are not fictitious. It is further assumed that the disbursement of funds to schools for cooperative programs is evidence of the existence of a program at that school. Therefore, when a discrepancy exists betweenq uestionnaire data and state office data, the state office data will be assumed to be the more valid.

CHAPTER IV

SUMMARY

Distributive Education has the longest history of cooperative programs and the greatest number of programs and the greatest number of students enrolled. Because of the nature of job placement in Distributive Education, there was no reason to expect concentration in either the major population centers or in smaller towns. The program enrollment ranged from one to 228 students with the mode being 20 students. There was, however, a rather significant clustering of the programs (accounting for about 33% of the total number of programs) in cities over 50,000.

The enrollment in T & I cooperative programs ranged from one student to 415 students. The model enrollment is 25. Just as we would expect Agriculture to be located in the smaller rural cities, we would also expect T & I to be located in the centers of population wherein reside the major manufacturing complexes. It is true that the greatest proportion of student enrollment in T & I was in the major population centers; however, T & I has cooperative programs across all of the classifications of population density used by this research project.

The enrollment in Business Education ranged from one student to 161 students with the mode being 18. The distribution of programs across centers of population was much the same for Business and Office Occupations as it was for Distributive Education. In this case, roughly 37% of the programs were incities of over 50,000.

Diversified Occupations, which by its nature should have no relationship to population density since students are permitted to work at just about any occupation, did find programs distributed across all of the population density classifications; and it had a student enrollment range from one to 216 with the mode being 25. It must be recognized, however, that Diversified Occupation programs have not yet found favor with all of the states. Alabama, Florida, Illinois, Minnesota, Missouri and North Carolina account for the major portion of Diversified Occupation cooperative programs.

The programs in cooperative Agriculture ranged in enrollment from one sutdent to 95 students with approximately 78% of the programs having 12 or fewer students enrolled.

It was to be expected that cooperative Agriculture programs would find their major emphasis in the smaller rural, agriculturally oriented communities. Although there were Agriculture programs recorded in even the largest metropolitan centers, over half of all of the Agriculture programs were in cities or towns of less than 25,000 people with over 28% of the cooperative programs being in towns of less than 5000.

There are so few programs of a cooperative nature in Home Economics that it does not seem worthy of analysis. Those that did exist clustered in seven states. Suffice it to say the enrollments ranged from six to 36 students and the programs were found in all population centers with the exception of the 25 major megalopolises.

There were 2451 schools that had cooperative programs but did not have Work-Study programs; there were 1823 schools that had Work-Study programs and no cooperative programs. Of the schools with cooperative work-education program, two-thirds had only one offering.

Some of the data collection and analysis provided less than overwhelming information. For example, using correlations to assess the relationship between the financial capabilities of the educational institutions across the states proves to be a rather fruitless endeavor. The same was true of the correlation analysis of financial capabilities of the schools within the states. This is to say, that there seemed to be no significant relationship between wealth of states or wealth of the schools within the states and any of the offerings in concurrent work-education.

In the process of summarizing the state data, correlations were computed between employment, unemployment, and number of offerings, in each of the cooperative programs and in Work-Study by states. These, in turn, were tested for relationship with the rank order of the state on money available to education. It was expected that there would be a significant correlation between the number of Work-Study programs and the total unemployment in a given state, as well as between the number of Work-Study programs and the money available to education in a given state. Only one of these correlations proved to be significant beyond the .01 level: Work-Study--unemployment r = .56. However, the number of offerings in cooperative Agriculture was also highly correlated with unemployment: Cooperative Agriculture--unemployment r = .58. The number of offerings in cooperative Agriculture, T & I, Distributive Education, Business Education were all highly inter-correlated. The correlation between the wealth of the state and the other summary variables was in no case sufficiently high to be significant to the .01 level.

In discussing some of the futility of data collection, it is necessary to summarize the disconcerting amount of error in the returns on the mailed questionnaire. The project was fortunate to have data from the state offices about reimbursed cooperative programs and Work-Study programs. In checking these data against the yes-no responses on the mailed questionnaires, there was no alternative but to conclude that the mailed questionnaire data was of doubtful validity and reliability. As the consequence, not much could be said about the existence of non-reimbursed cooperative programs.

CHAPTER V

DISCUSSION AND INTERPRETATION

As the result of visits, ranging from a few hours to a number of days, with the offices of education in the various states, the research staff developed some subjective feelings about a number of aspects of these educational bureaus. The subjective feelings of each of the persons who visited a given state were recorded in the form of anecdotal comments (for a significant portion of the states there was more than one person involved). Thankfully the anecdotal comments demonstrated reliable interpretations among the members of the research staff in relationship to the factors about to be discussed.

The reader is cautioned not to interpret the forthcoming remarks as an assessment of the strengths of the vocational programs in the states. In some respects this chapter seems to be totally unrelated to the strength of the programs.

As was discussed earlier in this report, some of the information gathered about schools came from the state superintendent's office, although the bulk of information came from the Vocational Education Department. In the process of gathering information from these two sources, the research staff developed some feeling about the extent to which there was communication among the various services in the state office. No assessment can be made as to whether Special Education, for example, has a strong pattern of continuous communication with the related services in the state office; but an assessment can be made for vocational education. It was generally considered that vocational education did not maintain active communication with the other departments within the state office; and generally, it did not maintain communication with departments from which vocational education could benefit by having contact. An example of the lack of communication would be the state of Wisconsin, whereas an example of a strong pattern of continuous communication would be Colorado.

Integration and communication are naturally highly correlated but are independent here because facilities can also be considered. Some state offices of education are scattered throughout a number of buildings, whereas others are all housed in the same structure. Pennsylvania, Oregon, and Washington have all their state educational offices in the same building, whereas Oklahoma and New York are examples of offices being scattered. It is very common for vocational education to be housed independently of the rest of the education enterprise as soon as there is need for more than one building. Oklahoma, for example, has its vocational education office 65 miles removed from the rest of the state offices. It seems apparent that physical separation mitigates against integrated activity and continuous communication; however, some states have managed to maintain integration and communication even though separate facilities are used. I would cite Idaho as an example of this.

Although the intent of the Vocational Education Act of 1963 was in part to enhance the cooperation among services of vocational education, there are numberous instances where this has yet to be accomplished. Illinois is a good bad example. It cannot be suggested that the size of the program makes integration within vocational education difficult or impossible, because a fine example of an integrated state office for vocational education exists in one of the largest programs in the country--Texas.

It would be expected that of the various offerings in public education, vocational education would be the area most eager to use and most capable of understanding electronic data processing. Vocational education is after all, committed to maintaining up-to-date knowledge about technological advances, particularly those that have influence upon the occupational structure. Further, it seems that vocational education at the state office level has the greatest need for a system that facilitates accounting. The school districts submit totthe state office in some cases very detailed information about vocational education programs--teachers, students, activities, and related information. A portion of this information is required to be tabulated and submitted to USOE to justify the expenditures of federal funds. It is readily apparent that communication among state office departments, physical and administrative integration within the state office and within vocational education is necessary in order that data processing systems can be efficiently used. Although many of the state departments of vocational education do not take advantage of data processing facilities of the state office when they exist, it is pleasing to note that there is a movement toward the use of these systems. Oregon and California are currently formulating plans which will permit vocational education.

One recommendation to vocational education designed to facilitate the use of data processing equipment in student accounting is in order. Vocational education should use Social Security numbers as the means of student identification, which is identical to the system being used by Florida in vocational education, by the University of Illinois for all of its students, and by the Iowa Educational Information Service for all students within the state of Iowa.

The research staff collected data not only from the state offices, but also from related agencies, particularly the State Teachers Association. In some instances the State Teachers Association had more discrete enrollment data than did the state office. In all cases the State Teachers Association had more complete information on teachers' salaries. In one instance, the state of Arkansas, the source of student enrollments in grades ten, eleven, and twelve was the Athletic Association.

Within vocational education the location and arrangement of data relating to public school offerings ranged from an individual to a structured system. It was not uncommon for the individual who was capable of locating and explaining vocational education data to be a secretary. Nor was it uncommon for the professional personnel to have changed positions and still be considered the repository of information about the programs they had supervised on their previous assignment. It may be considered rather pleasing that many of the state offices are personality oriented in terms of information about programs; but the lack of continuity as personnel change becomes distressing. It seems desirable to develop a uniform information reporting system and a system-oriented means of recording, storing, tabulating, and reporting this information. Two good examples of a well organized system are Colorado and Florida. The best example of uniform recording formats across the states is in the area of Distributive Education.

The professional vocational educators who originally organized state programs in vocational education back in the twenties either have retired or are about to retire. The first generation is on its way out. The size of the staff, which in most respects is unrelated to the size of the program in the state, has become fairly stable. I think it can be expected that second and third generation vocational educators will shortly, if not already, be responsible for the functions in vocational education. Most of the state offices are still manned by the "old guard" ("old guard" is used here with affection), but there are individuals and rare areas among the states where the "young turks" (used here with affection) have taken over the reins. Missouri and New Jersey have their young turks. It will be interesting in years to come to see what effect, if any, they have upon state structure in vocational education.

Following is a brief discription of some isolated but pertinent situations that point up unique state department involvements in cooperative education.

New York City had a rather interesting program called STEP. This was designed to offer a work-study program for potential dropouts. STEP (The School to Employment Program) has a minimum age requirement of 15 or 16. A well organized program such as STEP fits the D.O. category of many other school districts. However, it was specifically designed to combat the drop-out problem. Upon inspection of the job placement of students, it was concluded that the actual operation was similar to Diversified Occupations programs in other states.

In Missouri the student enrollment in T & I and Distributive Education are reported on the same form. Although a differentiation is made between the two programs in some instances, it is not made consistently; and in many cases the two programs are handled by the same coordinator. As the result of this mix and without making any judgment of the efficiency of the arrangement, the research project tabulated all the enrollments under diversified occupations since D.O. is typically designed to handle cooperative programs that cut across the traditional areas. This seems consistent with the fact that cooperative programs are under one supervisor at the state level, rather than under individual services. The term C.O.E. is the generic term used on all report forms. C.O.E. is used interchangeably with D.E. and T & I in designating the related class period on the schedule, SIC and DOT numbers are frequently reported in mixed sequence.

Utah had a program that placed under-achieving students in service occupations. Although the programs received some guidance from the state supervisor of Distributive Education, they did not limit the student placement to distributive occupations. There were five such programs with a total enrollment of exactly 100 students. Because of the varied nature of student employment, these programs were tabulated under Distributive Occupations.

California has a program called Work Experience that exists both in the high school and the junior college. In many ways it is not unlike Work-Study under the provision of Public Law 88-210. One major difference is that the students do not have to demonstrate financial need. There have been some state supported studies of the Work Experience program, but there are not data of a statewide nature available.

The Work-Study programs in Wisconsin were concentrated in the post-high school institutions by design, and a significant proportion of the students were employed as aids to teachers.

Although cooperative work-education programs are not widespread in post-high school institutions across the fifty states, the state of Washington has a rather unique and extensive cooperative program in Business Education called "Mid-Management." This program is attracting considerable attention in other states and can be expected to generate additional cooperative programs especially in junior colleges.

It may be that tax supported agencies must lead the way in providing work stations for students. NASA, Huntsville, has the largest cooperative work-education program for college students in the United States. The United States Navy has long been involved in cooperative programs for engineering students. Placement is the problem.

The federal legislation seemed to indicate that USOE was desirous of doing away with or at least modifying, the influence of the various divisions within the state offices of vocational education. Typically each state office has a division for Trade and Industrial Education, Distributive Education, Office Occupations Education, Home Economics Education, Agricultural Education, Technical Education, and in some cases Diversified Occupations Education. When the states are considered in total, each of these divisions has some concurrent work-education programs; however, with the exception of Distributive Education, there are no divisions that have concurrent work-education programs across all of the states.

There are numerous authorities in education and social science throughout the United States (Morris Janowitz of Chicago being a prime example) who consider bonafide occupational experience as being socially meaningful regardless of the kind of task the student performs. This idea, coupled with the apparent rivalry among the areas of vocational education and a tendency to group cooperative education students into Diversified Occupations in those cases where either the program at the school is relatively small or where coordinators and/or the state office are unable to agree upon which area of vocational education the student should be assigned, leads one to believe that cooperative education should be considered as an entity without subdivisions.

It has been said that "He who pays the piper calls the tune." Many aspects of data reporting on vocational education are consistent with the above quote in that states report to USOE those things that they are required to report in order to justify the expenditures of federal money. By and large, these reports relate to the number of teachers and coordinators employed throughout the state. In addition, there are reports about the occupational fields they are serving by the various areas of vocational education. The tabulation of the number of students involved is not essential for reimbursement and therefore is very loosely calculated and generally includes anyone who ever enrolled, if for only one day.

The state, in turn, requires information from the schools which is generally considerably more extensive than that which is reported to USOE; and there are many filing cabinets in state offices filled with information about students that has never been used in any fashion. The easiest thing to come by is a tabulation of the names, addresses, and phone numbers of instructors, coordinators, and supervisors by service area. The United States Department of Agriculture can tell you how many pigs were slaughtered in Chicago any morning and provide this information by two p.m. of that same day. We in vocational education generally cannot provide accurate information about the number of students involved in our programs even if given a few months to perform the tabulations. Hopefully this report provides some information about students and the offerings available to them across schools among the fifty states.

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CHAPTER VI

Characteristics of Students and Programs

There will be no attempt to compare the age, grade, and sex distributions of CWE students with the normal school population. The intent of gathering this data was originally to set the stage for the second phase of the study which was to have been an in depth study of selected schools throughout the United States.

The stipulations relative to grades in which CWE programs will be offered varies from state to state with the exception of Work Study. The modal restriction across all kinds of programs, again with the exception of Work Study, is that the students must be seniors. This is particularly true with Distributive Education since it has the most uniform practices across the states.

The distribution of students by sex is, as would be expected, conditioned by the kinds of occupations for which the programs are designed to prepare the students. Distributive, Office, Health, and Home Education programs have the most appeal for female students while Agriculture, T & I, and Diversified Occupations have the most appeal for the male students. (Because of the small N, cooperative health occupation programs and Cooperative Home Economics programs will not be discussed here; see page 33.)

Distribution by Sex:

In the table M, on the following page, is shown the distribution by sex for each of the major divisions of CWE programs. This includes the range percentage across the 50 states, plus the overall percentage male-female distribution.

TABLE M

DISTRIBUTION BY SEX BY AREAS OF CWE

(male shown-female would be the residual)

	RANGE % Male Across States	OVERALL %
Distributive Education	48 to 80	55.9
Business/Office Occupations	03 to 35.2	19.5
Agriculture	55 to 89.4	88.5
Trade and Industrial	57.8 to 91	83.3
Diversified Occupations	55.8 to 71	60.3
Work-Study	46.7 to 100	62.07

Distribution by Age:

Age was categorized as 16 or less; 17, 18; and over 18. The percentage range in each category by major division includes such unique aspects as the limitation of Work Study in Wisconsin to the area vocational schools and junior colleges. It was expected that in the second phase of the study some explanations would be in order for the variance of age distribution across schools and across major classificaitons within vocational education. At this writing, a descriptive table must suffice. The students' ages reported in Table N, on the following page, are based upon their age as of the last full month of 1965-66 academic year (May).

TABLE N

DISTRIBUTION OF STUDENT BY AGE

ACROSS CWE PROGRAMS

	16 or less	17	18	over 18
Distributive Education	11.5	45.4	32.2	10.9
Business/Office Occupations	5.2	48.8	35.4	10.6
Agriculture	22.2	37.1	28.0	12.7
Trade & Industrial	16.0	44.1	31.6	8.3
Diversified Occupations	12.1	56.1	24.3	7.5
Work-Study	29.5	18.9	30.1	21.5

Distribution by Grade:

As was mentioned earlier, cooperative programs are restricted to the twelfth grade in many states with the exception of Diversified Occupations. Work Study, of course, has to be viewed separately. Table O, shown on page 61, shows the range and the percentage of the 10th, 11th, 12th, 13th and 14th grades across the 50 states, plus the overall percentage in each grade by major classification. It should be noted here that the 13th and 14th grades include junior colleges, community colleges, and post high school area vocational schools.

The state of Washington has by far the largest cooperative post high school programs in Distributive Education. By the 1968-69 school year it is expected that each of the Community Colleges in Washington will have a cooperative mid-management program.

TABLE O

RANGE AND PERCENTAGE

DISTRIBUTION BY GRADE

	10th	11th	12th	Post-High
Distributive Education	0.2	15.9	79.3	4.6
Business/Office Occupations	0	8.1	90.4	1.5
Agriculture	0	21.3	78.7	0
Trade & Industrial	0.9	41.4	57.7	0
Diversified Occupations	0	26.2	73.8	0

Ration of Coordinators to Students:

As programs are started it is understandable that the coordinator of a Cooperative program may have very few students. As the program matures there is a saturation point where no more students can be admitted without an additional coordinator, if the on-the-job supervision is to be maintained. The range in number of students per coordinator reported on page 62 (Table P) indicates the extent to which some coordinators are overloaded, whereas the mean ration of students to coordinators reflects the maturity of the offerings.

Again we find Work Study to be different from the cooperative programs. By far the majority of Work Study students were employed by the school district in which they are enrolled. In effect, the Work Study coordinator was an accountant and the students were supervised by a teacher, administrator or one of the supporting personnel in the school for whom he or she worked. Thus, there was practically a one to one relationship in Work-Study.

TABLE P

STUDENT/COORDINATOR RATIOS

	RANGE Across All States	OVERALL Mean
Distributive Education	1 - 48	27.3
Business/Office Occupations	1 - 40	21.5
Agriculture	2 - 49	10.9
Trade and Industrial	2 - 65	25.8
Diversified Occupations	9 - 39	30.1
Work-Study	1 - 501	19.3

Distribution of Students across Jobs:

The tabulations of specific jobs in which students were employed was not only an impossible but would have been a meaningless activity, since the reporting system ranges from career objectives in Distributive Education through the name of the employer in some programs, to the name of the specific job with the appropriate DOT number in selected T & I programs. Therefore, the following table (Table Q) was prepared which categorized occupations in terms of the relative consistency with the definitions of the major subdivisions of Vocational Education.

The major service areas in Vocational Education are defined as follows. (Diversified Occupations programs cut across all service areas and Work-Study was defined on pages 16-18.)

AGRICULTURE EDUCATION

in Agricultural subjects for occupations which perform one or more of the agricultural functions of producing, processing, and distributing agricultural products, and related services. Competencies are emphasized on one of the primary areas of plant science, soil science, animal science, farm management, agricultural mechanization or agricultural leadership. An agricultural occupation may include on or any combination of these areas.

DISTRIBUTIVE EDUCATION

Distributive education (Distribution and Marketing) includes various combinations of subject matter and learning experiences related to the performance of activities that direct the flow of goods and services, including their appropriate utilization, from the producer to the consumer or user. These activities include buying, selling, transportation, storage, marketing research and communications, marketing finance, and risk management.

BUSINESS AND OFFICE EDUCATION

Business and Office Occupations includes those programs which relate to the facilitating function of the office and include such activities as recording and retrieval of data, supervision and coordination of office activities, internal and external communications and reporting of activities, internal and external communications and reporting of information. Training in specific skills includes: stenographic, typing, filing, and related courses; computing and accounting material and production;

recording, message distribution, accounting, auditing, budget, personnel and training, clerical functons, and data processings.

TRADES AND INDUSTRIAL EDUCATION

Trades and industrial education includes training for occupations that are skilled or semiskilled and are concerned with layout designing, producing, processing, assembling, testing, maintaining, servicing, or repairing any product or commodity. Instruction is provided (1) in basic manipulative skills, safety judgement, and related occupational information or mathematics, drafting, and science required to perform successfully in the occupations, and (2) through a combination of shop or laboratory experiences simulating those found in industry and classroom learning. Included is instruction for apprentices in apprenticeable occupations or for journeymen already engaged in a trade or industrial occupation. Also included is training for service and certain semi-professional occupations considered to be trade and industrial in nature.

From the above definitions it is apparent the clear cut distinctions cannot be made among the service areas of Vocational Education. However, the areas of major distinctions were used to categorize job stations in CVE programs. The categories, waitress, custodian, and teacher's aide were added to provide a more complete breakdown of work-study jobs. Health occupations was added because of the significant number of these jobs held by students classified under trade and industrial education.

TABLE Q

DISTRIBUTION OF EMPLOYMENT ACROSS MAJOR OCCUPATIONS

	Distri. Educa.	Bus./Office Occup.	Trade/Indus. Education	Agric. Educa.	Divers. Occupa.	Work Study
Sales	91.0%	3.2%	9.9%	3.3%	3.2%	1.7%
Office	2.0%	95.5%	3.9%	---	6.5%	40.0%
Farming	---	---	0.5%	90.0%	0.6%	0.9%
Trades	0.3%	---	59.2%	5.7%	48.1%	4.1%
Waitress	0.7%	---	5.1%	---	2.8%	3.4%
Custodian	---	---	1.7%	---	1.1%	26.2%
Health Occup.	---	---	3.6%	---	16.7%	0.9%
Other	6.0%	1.3%	16.1%	1.0%	20.6%	1.7%
Teachers Aide	---	---	0.2%	---	.4%	20.9%

There are instances (Ohio would be an example) where the state supervisor of the given cooperative area refused to permit the students to enroll who were employed in jobs outside the purvue of the area. Typically, in less populated states and in smaller programs, such fine distinctions were not made, and it is the author's opinion that the value of part-time employment may well be independent of the occupation.

It is my opinion that the over-lap of vocational areas (even across broad classifications such as Table Q) suggests the need to treat CWE programs as an entity without subdivisions.

Selected in Depth Studies:

The data and discourse that follow were abstracted from the dissertations of Dr. Thomas R. Jensen and Dr. Lewis Holloway. Dr. Jensen studied CWE programs for students with handicaps and Dr. Holloway's studies are on experimental programs in one high school.

Concurrent Work-Education for Handicapped Students (CWE/H):

A careful analysis of responses to a series of questionnaire items related to administrative characteristics of CWE/H programs resulted in the administrative model represented below.

This model also indicates the distribution of CWE/H return among administrative categories and corresponding cell percentages.

	Special Education	Special Education and DVR	NYC	Other CWE/H	
Independent	N = 27	N = 37	N = 24	N = 12	
Augumented	N = 11	N = 27	N = 7	N = 7	
	38	64	31	19	152

"Independent" CWE/H programs were administered solely by the designated "primary agency" whereas "augmented" CWE/H programs were those in which the "primary agency" was involved in a joint undertaking with another agency. For example, an on-going special education CWE/H program which integrates NYC funds and work stations was classified as an "augmented" program.

Responses to another series of questionnaire items were employed to determine the nature of the handicaps possessed by the clientele of CWE/H programs. It was found that the types of handicaps fell into three general categories and could be represented on a continuum with handicaps associated with cultural deprivation at one end, handicaps associated with mental retardation at the other, and a combination of the extremes in the center. The latter were referred to as the "broadly handicapped." The CWE/H return indicated that a disproportionate number of CWE/H programs were serving the mentally retarded which was not surprising since 67 percent of the CWE/H programs were administered by special education and special education--DVR.

Spokesmen for CWE/H of all types indicated objectives which reflected a concern for the development of "general work traits." Many CWE/H programs had objectives reflecting secondary emphases, e.g., objectives indicating a concern for job placement, per se, and objectives indicating a concern for developing job skills. Roughly 38 percent of the CWE/H programs were concerned with developing general work traits _only_. 42 percent were concerned with general work traits _and_ skill development. Special education--DVE programs were found to emphasize placement, and to a lesser extent skills, more frequently than did special education programs. NYC programs, on the other hand, emphasize placement and have a noticeable lack of emphasis on general work traits only and general work traits plus job skills.

The average number of students per CWE/H program was 19.6 and this figure was stable across administrative types. On the average there were one or two fewer females than males in CWE/H programs and one-third of the clientele were non-white. NYC programs deviated somewhat by virtue of the fact that they enrolled as many girls as boys and as many non-white as white.

Information was collected regarding the five types of work-experience settings: (1) on-campus, in-class; (2) on-campus, out-of-class; (3) sheltered workshop; (4) off-campus, non-profit institution; and (5) off-campus, profit-making enterprise. In the same order as presented, the modal entry grade levels were 10, 10, 11, 11, and 11-12. The modal age level at entry for all types of work-experience settings was 16. Wages were more frequently paid in the off-campus settings. On-campus, in-class (1) was a poor last in wage payment with only 31 percent of such settings providing wages. Students placed in off-campus, profit-making enterprises were more frequently given course credit and related classes than students in other settings.

When CWE/H programs were classified according to the nature of work-experience setting sequences available, there were 44 "single choice" programs, 23 direct-line "sequential" programs, 32 "sequential-branching" programs, and 50 "concurrent" programs. Special education--DVR programs exhibited a higher than expected frequency of sequential and sequential-branching programs which may indicate more structure, planning, and articulation than other types of CWE/H programs. NYC was strongly indentified with single choice offerings. As expected, augmented programs had a disproportionate number of sequential-branching and concurrent offerings, thus enabling such programs to offer more work-experience setting alternatives to students.

Among all types of CWE/H programs, the five factors thought most contributory to the success of individual programs were acceptance and commitment to the program by (1) school administrators and board, (2) CWE/H teachers, coordinators, and counselors, (3) CWE/H students, (4) employers, and (5) freedom to try new approaches. The five factors presenting the most serious obstacles to greater success were lack of (1) time for counseling, (2) time for job visitations, (3) CWE/H guidelines, (4) facilities, and (5) curriculum materials.

There was little evidence to indicate that CWE/H respondents felt that affiliation with a more comprehensive CWE program for "normal students" would help their CWE/H programs.

Special education--DVR had a disproportionate number of positive responses for every "success contributory factor" examined. Only success contributory factor items having a $P < .30$ were examined. NYC had a disproportionate lack of positive responses in every case examined except one: funds. For all factors examined, augmented CWE/H programs had more positive responses than independent programs.

If essential cooperating agencies are discounted, e.g., individual, business concerns or the Office of Economic Opportunity for NYC programs, one must conclude from the data that CWE/H programs in general fail to take advantage of potential cooperating agencies in the community.

Special education--DVR and NYC programs generally indicated non-local initiation factors whereas the converse was true of special education and "other CWE/H" programs. With respect to permanence, special education--DVR, special education, "other CWE/H," and NYC respectively were considered progressively less established in the curriculum. Over 50 percent of the CWE/H programs came into existence during the last two years.

In considering a number of miscellaneous questions, it was clear that special education--DVR programs tend to provide more services and to use more resources than other CWE/H programs. NYC was on the other end of the continuum. In response to whether respondents thought their program was worth copying, special education--DVR respondents had a disproportionate zeal for their programs and NYC and "other CWE/H" had a reciprocal lack of enthusiasm for their programs.

When CWE/H programs are classified according to type of work-experience setting sequences it was found that a disproportionate number of single choice programs were not considered worth copying and that sequential-branching appears to be slightly more desirable than sequential and concurrent.

An Experimental Program, CVE

The CVE, or Experimental Group. The primary subjects of this study were those junior and senior students, during the 1966-67 school year, who were first-year enrollees in the Cooperative Vocational Education (CVE).

The 119 CVE students who made up the experimental group represented 10.88 percent of the total number of juniors and seniors at the High School. Examination of Table R shows that 89 (74.70 percent) of the CVE students were seniors.

TABLE R

NUMBERS OF JUNIOR AND SENIOR STUDENTS ENROLLED IN WORK PROGRAMS AND THE RESIDUAL SCHOOL POPULATION

	CVE Program	Other Programs Which Include Some Work Experience	Residual Seniors	Total Population of Juniors and Seniors
Junior Boys	11	11	183	205
Junior Girls	19	5	197	221
All Juniors	30	16	380	426
Senior Boys	45	24	272	341
Senior Girls	44	15	267	326
All Seniors	89	39	539	667
Total of All Students	119	55	919	1093

The experimental group was about equally divided between the sexes with 56 boys representing 47.06 percent of the 119 CVE students.

The CVE students were divided into sub-groups which were in most cases indicative of their type of employment. The one sub-group where the name does not indicate the work area was that of Diversified Occupations. As might be expected, there was a wide range of work stations in this sub-group, some of which might seem to be more appropriate for other sub-groups.

This overlapping was caused by such factors as coordinator load and prerequisite courses for particular sub-groups. The number and percentage of students in each of the sub-groups are shown in Table S.

TABLE S

NUMBERS AND PERCENTAGES OF CVE STUDENTS BY SUB-GROUPS

Name	Number	Percent of Total
1. Office Occupations	26	21.85
2. Distributive Education	21	17.65
3. Diversified Occupations	45	37.81
4. Food Service	22	18.49
5. Agri-Business	5	4.20
TOTAL	119	100.00

During the year of the study, two CVE students transferred out of the program, another was graduated at mid-term, and sixteen dropped out of school. Of the original 119 CVE students, 100 completed the program. In describing, CVE students, the entire 119 were included, but for data analysis on other factors the total was necessarily reduced to 100.

The Random Sample. For Comparison purposes a random sample of 119 students was drawn from the residual school population. Since the main difference in the treatment of the CVE students was their supervised work experience, it was felt that no students in the random sample should be in a work experience program. Table R shows there were 55 students who were excluded from the residual group for this reason. These 55 students were composed of a special education group of socially maladjusted students and some individual students who were only in need of several credits to be graduated and had been given permission to work half-time without being a part of any work-education program.

Comparisons CVE and Random Sample. A comparison of the CVE and random sample groups on age as of October 1, 1967 is presented in Table T. Though there was not enough variation between the groups to cause a significant difference, most of the variation was at one age level. By observing the individuals involved, the author (Dr. Holloway) was able to note that a large number of the seventeen CVE students in the older age group were former dropouts. The median age of CVE students was 16.90 years while the median age of random sample students was 16.76.

TABLE T

AGE OF CVE AND RANDOM SAMPLE STUDENTS

AT THE BEGINNING OF THE STUDY

AGE	CVE No. of Students	Percent	Random Sample No. of Students	Percent	Total No. of Students	Percent
Not Available	0	0.00	1	.84	1	0.42
15 and under	3	2.52	7	5.88	10	4.20
16	28	23.53	32	26.90	60	25.21
17	71	59.66	72	60.50	143	60.09
18 and over	17	14.29	7	5.88	24	10.08
TOTAL	119	100.00	119	100.00	238	100.00

$X^2 = 5.08$ df = 2 $.05 < p < .10$

CVE Median = 16.90

Random Sample Median = 16.76

There were twelve non-white students in the CVE group as compared to nine in the random sample. From the chi-square and internal consistency of Table U, it was concluded that there is not appreciable difference between these groups as to their racial make-up.

TABLE U

RACE OF CVE AND RANDOM SAMPLE STUDENTS

RACE	CVE No. of Students	Percent	Random Sample No. of Students	Percent	Total No. of Students	Percent
White	107	89.92	110	92.44	217	91.18
Non-White	12	10.08	9	7.56	21	8.82
TOTAL	119	100.00	119	100.00	238	100.00

$X^2 = 0.47$ df = 1 $P > .25$

Although I.Q. scores have come into some criticism in recent years as measure of "innate ability" it is known that such measures are good predictors of academic success in regular school programs. Deviation I.Q. scores of CVE and random sample students were gathered from their cumulative folders and the resultant comparison is shown in Table V. Upon the basis of the chi-square it is concluded that the deviation I.Q. of random sample students was significantly higher than that of CVE students. The median deviation I.Q. score for CVE students was 100.10 as compared with a median of 112.85 for random sample students.

TABLE V

DEVIATION I.Q.* SCORES OF CVE AND RANDOM SAMPLE STUDENTS

SCORE	CVE No. of Students	CVE Percent	Random Sample No. of Students	Random Sample Percent	Total No. of Students	Total Percent
Not Available	9	7.56	10	8.40	19	7.98
52 - 67	2	1.68	1	.84	3	1.26
68 - 83	13	10.92	4	3.36	17	7.14
84 - 99	38	31.94	19	15.97	57	23.95
100 - 115	47	39.50	34	28.57	81	34.04
116 - 131	10	8.40	41	34.46	51	21.43
132 - 148	0	0.00	10	8.40	10	4.20
TOTAL	119	100.00	119	100.00	238	100.00

$X^2 = 40.97$ df = 3 $P < .001$

CVE Median = 100.10
Random Sample Median = 112.85

* California Test of Mental Maturity

2. Family Background. Probably the most enlightening factor of family background is a measure of socio-economic class. Father's occupational level is the best single predictor of socio-economic class. Data gathered on father's occupational level is presented in Table W. The chi-square for this comparison was sufficient to conclude that CVE students tend to come from families of the lower socio-economic classes. An example of how the CVE students must be classed as coming from lower socio-economic levels is indicated by the fact that only two of the CVE

students' fathers were employed as professionals or semi-professionals as compared with thirty-four fathers of the random sample group. In the investigator's opinion this great difference in socio-economic level, as seen by the occupational level of the subjects' fathers, is an important factor in explaining the results to be presented later in this report.

TABLE W

FATHER'S OCCUPATIONAL LEVEL FOR CVE AND RANDOM SAMPLE STUDENTS

LEVEL	CVE No. of Students	CVE Percent	Random Sample No. of Students	Random Sample Percent	Total No. of Students	Total Percent
Not Available	12	10.09	4	3.36	16	6.72
Professional	0	0.00	21	17.65	21	8.82
Semi-Professional	2	1.68	13	10.92	15	6.30
Skilled	29	24.36	39	32.77	68	28.58
Semi-Skilled	48	40.34	22	18.49	70	29.41
Unskilled	28	23.53	20	16.81	48	20.71
TOTAL	119	100.00	119	100.00	238	100.00

$\chi^2 = 36.35$ df = 4 $P < .001$

The preceding evidence of a difference between the groups on socio-economic level is borne out further by the data on educational level of the students' fathers. CVE and random sample students were compared on father's educational level (see Table X). The chi-square, which was significant at the .001 probability level was adequate to conclude that fathers of random sample students had more education than did fathers of CVE students.

TABLE X

FATHER'S EDUCATIONAL LEVEL FOR CVE AND RANDOM SAMPLE STUDENTS

Years of Schooling	CVE No. of Students	CVE Percent	Random Sample No. of Students	Random Sample Percent	Total No. of Students	Total Percent
Not Available	24	20.17	5	4.20	29	12.18
1 - 8	3	2.52	1	0.84	4	1.68
9 - 12	26	21.85	17	14.29	43	18.07
13 - 16	62	52.10	59	49.58	121	50.84
17 or more	4	3.36	37	31.09	41	17.23
Total	119	100.00	119	100.00	238	100.00

$X^2 = 27.72$ df = 2 $P < .001$

Absentee records for the year preceding the study were examined for both CVE and random sample groups. The absence data reported in Table Y produced a chi-square sufficient to conclude that a significant difference existed between the groups. Examination of the table indicates that CVE students had a decidedly higher absence rate than did random sample students. The median number of absences for CVE students during the year preceding the study was 14.5 days as compared with 4.9 days for the random sample students.

It was found that random sample students take more units of credit in most of the academic subject areas. In order to somewhat even out the number of units taken, it is likely that there would be at least one area in which CVE students took more units of sophomore credit than random sample students. The area in question was vocational, technical and

TABLE Y

NUMBER OF ABSENCES FOR CVE AND RANDOM SAMPLE STUDENTS DURING THE SCHOOL YEAR PRECEDING THIS STUDY

No. of Days Absent	CVE		Random Sample		Total	
	No. of Students	Percent	No. of Students	Percent	No. of Students	Percent
Not Available	13	10.92	5	4.20	18	7.56
0 - 4	14	11.76	38	31.93	52	21.84
5 - 9	19	15.97	37	31.09	56	23.52
10 - 14	20	16.82	17	14.30	37	15.55
15 - 19	18	15.13	13	10.92	31	13.03
20 - 29	14	11.76	5	4.20	19	7.98
30 - 49	11	9.24	3	2.52	14	5.88
50 and above	10	8.40	1	0.84	11	4.62
Totals	119	100.00	119	100.00	238	100.00

$X^2 = 33.49$ df = 5 $P < .001$

practical arts. Under this area are grouped the following types of courses: Business education, homemaking, trade and industrial arts, art, and agriculture. The extent of the difference between the groups is noted by the fact that only 5.88 percent of the CVE students did not take any vocational, technical and practical arts courses during the sophomore year as compared with 46.22 percent of the random sample students.

With CVE students having taken more courses in the areas requiring less rigorous academic ability one would expect this to have a leveling effect upon the over-all grade-point average. If there was such an effect it was hidden by the overwhelming superiority of random sample students in earning higher sophomore grades. The median grade-point average for CVE students was 3.61 as compared with 3.62 for random sample students.

The Year of the Study and Future Plans

1. Dropouts. Of the 119 CVE students who became a part of the study on October 1, 1966, 100 completed the school year as compared to 114 of the original 119 random sample students. Examination of Table Z shows that the number of mid-term graduates and transfers were approximately equal for the two groups. Based upon the chi-square for this table it was concluded that there was a difference in the dropout rate between the CVE and random sample students. The major difference between the groups is accounted for by the sixteen CVE students who dropped out of school as compared with only three random sample students.

TABLE Z

SCHOOL STATUS OF CVE AND RANDOM SAMPLE STUDENTS AT THE END OF THE YEAR OF THE STUDY

	CVE		Random Sample		Total	
	No. of Students	Percent	No. of Students	Percent	No. of Students	Percent
Completed the School year	100	84.03	114	95.90	214	89.92
Dropped out of School	16	13.45	3	2.52	19	7.98
Graduated mid-term or transferred	3	2.52	2	1.68	5	2.10
Total	119	100.00	119	100.00	238	100.00

X^2 = 10.01 df = 2 $.005 < P < .01$

Much of the related information reviewed for this study indicated that work-education programs were, or might be, the answer to reducing the high number of school dropouts. As the CVE and random sample groups were not equated, it was not possible to access the holding power of the CVE program. Even when a card sorting technique was used to select those students in each of the groups who were dropout prone, the CVE groups showed a higher percentage of dropouts. To achieve proper perspective in this situation it must be emphasized that in addition to the many dropout prone enrolled in this program a substantial number of these students were dropouts from previous years. Several of the sixteen CVE dropouts left school very early in the school year and had such poor attendance prior to their dropping out that the activities of the program could have had little if any, effect upon them. It may well be that based upon the characteristics of the CVE student, it is surprising that no more than sixteen of the original 119 dropped from school.

2. Attendance. The number of absences recorded for CVE and random sample students are presented in Table AA. In considering attendance during the year of the study a special factor must be weighed. The CVE students were attending school in the morningssand were at their work stations in the afternoon. The means for keeping an accurate attendance record on these students was questionable. Because of this special situation no claims will be made as to similarity or difference between the groups. It will be noted though that the two groups differ at the $<$ .001 probability level on sophomore attendance. The median number of days absent during the year of the study for CVE students was 11.30 as compared with 10.00 for random sample students. It is interesting to note the absence rate for CVE students went down when compared with their sophomore record, while there was an increase in absences for random sample students.

TABLE AA

NUMBER OF ABSENCES FOR CVE AND RANDOM SAMPLE STUDENTS DURING THE YEAR OF THE STUDY

Days Absent	CVE No. of Students	 Percent	Random Sample No. of Students	 Percent	Total No. of Students	 Percent
Not Available	19	15.97	5	4.20	24	10.08
0 - 4	16	13.45	29	24.37	45	18.91
5 - 9	25	21.01	25	21.01	50	21.01
10 - 14	25	21.01	28	23.53	53	22.27
15 - 19	18	15.13	15	12.61	33	13.87
20 - 29	7	5.88	13	10.92	20	8.40
30 - 49	9	7.55	3	2.52	12	5.04
50 and above	0	0.00	1	0.84	1	0.42
Total	119	100.00	119	100.00	238	100.00

$X^2 = 7.04$ df = 5 $.10 < P < .25$

CVE Median = 11.30

Random Sample Median = 10.00

3. Grade-Point Average. The comparison between CVE and random sample students on grade-point average during the year of the study is presented in Table BB. On the basis of the chi-square and examination of the table it is concluded that random sample students had higher grades than CVE students. For CVE students the median grade-point average was 4.35 while that of the random sample was 5.22.

TABLE BB

GRADE-POINT AVERAGE OF CVE AND RANDOM SAMPLE STUDENTS DURING THE YEAR OF THE STUDY

Grade-Point*	CVE		Random Sample		Total	
	No. of Students	Percent	No. of Students	Percent	No. of Students	Percent
Not Available	19	15.97	5	4.20	24	10.08
.1 - 1.9	2	1.68	1	0.84	3	1.26
2.0 - 2.9	34	28.57	21	17.65	55	23.11
3.0 - 3.9	45	37.81	38	31.93	83	34.88
4.0 - 5.0	19	15.97	54	45.38	73	30.67
Total	119	100.00	119	100.00	238	100.00

$X^2 = 19.92$ df = 2 $P < .001$

CVE Median = 4.35

Random Sample Median = 5.22

*1 = F 2 = D 4 = B 5 = A

4. Work Experience. It is noted that data on work experience during the year of the study was obtained from different sources for the two groups. Data for CVE students were gathered from forms filled out by the students for their training station late in the school year. These forms were checked by their coordinator. The information on random sample students was obtained from these responses to a questionnaire.

A presentation is made in Table CC of a comparison between the employment of CVE and random sample students. The ninety-eight employed students were not necessarily employed all at one time, but did work for a major portion of the school year. Inspection of the table and chi-square are sufficient to conclude that the employment rate of CVE students was higher than that of random sample students. It is interesting to note that a large portion (62.18 percent) of the random sample students were employed.

TABLE CC

CVE AND RANDOM SAMPLE STUDENTS EMPLOYED FOR A MAJOR PORTION OF THE YEAR OF THE STUDY

Employment	CVE No. of Students	Percent	Random Sample No. of Students	Percent	Total No. of Students	Percent
Not Available	19	15.97	5	4.20	24	10.08
Employed	98	82.35	74	62.18	174	73.12
Not Employed	2	1.68	40	33.62	40	16.80
Total	119	100.00	119	100.00	238	100.00

$X^2 = 38.50$ df = 1 $P < .001$

The area of employment for CVE and random sample students is presented in Table DD. The chi-square is large enough to conclude that a difference exists between the groups. In examining the table it is found that no single segment produces a very large proportion of the difference. The CVE group has a larger proportion of workers in office occupations and the trade and technical area while random sample students are more likely to be employed in sales, food service and general service.

TABLE DD

AREA OF EMPLOYMENT FOR CVE AND RANDOM SAMPLE STUDENTS DURING THE YEAR OF THE STUDY

	CVE No. of Students	Percent	Random Sample No. of Students	Percent	Total No. of Students	Percent
Not Available and unemployed	28	23.53	45	37.81	73	30.67
Office Occupations	30	25.21	13	10.92	43	18.07
Sales	19	15.96	19	15.97	38	15.97
Trade and Technical	12	10.09	0	0.00	12	5.04
Food Service	12	10.09	15	12.61	27	11.35
General Service	18	15.12	27	22.69	45	18.90
Total	119	100.00	119	100.00	238	100.00

$X^2 = 19.31$ df = 4 $P < .001$

TABLE CC

CVE AND RANDOM SAMPLE STUDENTS EMPLOYED FOR A MAJOR PORTION OF THE YEAR OF THE STUDY

Employment	CVE No. of Students	Percent	Random Sample No. of Students	Percent	Total No. of Students	Percent
Not Available	19	15.97	5	4.20	24	10.08
Employed	98	82.35	74	62.18	174	73.12
Not Employed	2	1.68	40	33.62	40	16.80
Total	119	100.00	119	100.00	238	100.00

X^2 = 38.50 df = 1 P < .001

The area of employment for CVE and random sample students is presented in Table DD. The chi-square is large enough to conclude that a difference exists between the groups. In examining the table it is found that no single segment produces a very large proportion of the difference. The CVE group has a larger proportion of workers in office occupations and the trade and technical area while random sample students are more likely to be employed in sales, food service and general service.

TABLE DD

AREA OF EMPLOYMENT FOR CVE AND RANDOM SAMPLE STUDENTS DURING THE YEAR OF THE STUDY

	CVE No. of Students	Percent	Random Sample No. of Students	Percent	Total No. of Students	Percent
Not Available and unemployed	28	23.53	45	37.81	73	30.67
Office Occupations	30	25.21	13	10.92	43	18.07
Sales	19	15.90	19	15.97	38	15.97
Trade and Technical	12	10.09	0	0.00	12	5.04
Food Service	12	10.09	15	12.61	27	11.35
General Service	18	15.12	27	22.69	45	18.90
Total	119	100.00	119	100.00	238	100.00

X^2 = 19.31 df = 4 P < .001

The next area of work experience investigated was the number of hours worked by CVE and random sample students. It has been shown that CVE students are more likely to be employed than random sample students, but for this section only those students who are, or have been, employed for a major portion of the school year are included. Presented in Table EE is a comparison of the number of hours worked weekdays by the two groups. Examination of the table and the chi-square are basis for concluding that CVE students work more hours during the week than do random sample students. The above is not surprising for CVE students are relased from school during the week for the purpose of working. The median hours worked weekdays by CVE students was 21.30 as compared with 14.00 hours for random sample students.

TABLE EE

NUMBER OF HOURS WORKED WEEKDAYS BY CVE AND RANDOM SAMPLE STUDENTS

	CVE		Random Sample		Total	
	No. of Students	Percent	No. of Students	Percent	No. of Students	Percent
Not Available or unemployed	28	23.53	45	37.81	73	30.67
0	0	0.00	9	7.56	9	3.78
1 - 9	6	5.04	7	5.88	13	5.46
10 - 14	10	8.40	22	18.49	32	13.45
15 - 19	19	15.96	10	8.40	29	12.19
20 - 29	51	42.86	21	17.65	72	30.25
30 - 39	5	4.20	3	2.52	8	3.36
40 - 49	0	0.00	2	1.68	2	.84
Total	119	100.00	119	100.00	238	100.00

$X^2 = 14.41$ df = 3 $P < .005$

CVE Median = 21.30

Random Sample Median = 14.00

A difference again appears when CVE and random sample groups are compared on the number of hours worked on weekends, Table FF. In this case though, the difference is in the opposite direction. Based upon the chi-square and examination of Table FF it is concluded that employed random sample students work more hours on weekends than do CVE students. On weekends the median number of hours worked for CVE students was 5.0 as compared with 11.1 hours worked by random sample students.

TABLE FF

NUMBER OF HOURS WORKED WEEKENDS BY CVE AND RANDOM SAMPLE STUDENTS

	CVE		Random Sample		Total	
	No. of Students	Percent	No. of Students	Percent	No. of Students	Percent
Not Available or unemployable	28	23.53	45	37.81	73	30.67
0	32	26.90	7	5.88	39	16.39
1 - 9	45	37.81	27	22.69	72	30.25
10 - 14	8	6.72	20	16.81	28	11.77
15 - 19	6	5.04	19	15.97	25	10.50
20 - 29	0	0.00	1	.84	1	0.42
Total	119	100.00	119	100.00	238	100.00

$X^2 = 16.74$ df = 2 $P < .001$

CVE Median 5.0

Random Sample Median = 11.1

With CVE students working more hours weekdays and the employed random sample students working more on weekends, it seemed likely that the total number of hours worked might not differ. The total number of hours worked per week by the two groups are compared and presented in Table GG. From the chi-square and the internal consistency of the table it is concluded that CVE and employed random sample students did not differ as to the total number of hours per week. For CVE students the median number of hours was 24.45 while that of random sample students was 24.72.

TABLE GG

TOTAL NUMBER OF HOURS WORKED PER WEEK BY CVE AND RANDOM SAMPLE STUDENTS

HOURS	CVE No. of Students	CVE Percent	Random Sample No. of Students	Random Sample Percent	Total No. of Students	Total Percent
Not Available or unemployed	28	23.53	45	37.81	78	30.67
1 - 9	1	0.84	4	3.36	5	2.10
10 - 14	10	8.40	3	2.52	13	5.45
15 - 19	9	7.57	10	8.40	19	7.98
20 - 29	46	38.66	34	28.58	80	33.61
30 - 39	20	16.80	18	15.13	38	15.97
40 and above	5	4.20	5	4.20	10	4.20
Total	119	100.00	119	100.00	238	100.00

$X^2 = 0.51$ df = 2 $P > .75$

CVE Median = 24.45

Random Sample Median = 24.72

A comparison was alos made of the hourly wages of CVE and employed random sample students (See Table HH). Based upon the size of the chi-square and observing the table it was concluded that the two groups did not differ on hourly wages earned. The median hourly wage of CVE students was $1.38 as compared with $1.42 for random sample students.

It was deemed advisable to ascertain whether the larger number of CVE students was in any way related to the relationships which exist between the two groups. Employment figures (See Table CC) have shown that ninety-eight CVE students were employed as compared with seventy-four random sample students. Comparisons were made of the two groups across all data factors using only employed students. Chi-squares were quite similar to the original comparison on which the total groups were used. Therefore, it was concluded that the differences between groups could not be attributed to the students' employment status during the year of the study.

TABLE HH

HOURLY WAGES OF CVE AND RANDOM SAMPLE STUDENTS

Hourly Wage	CVE No. of Students	 Percent	Random Sample No. of Students	 Percent	Total No. of Students	 Percent
Not Available or unemployed	28	23.53	45	37.81	78	30.67
.01 - .99	3	2.52	3	2.52	6	2.52
1.00 - 1.24	14	11.76	9	7.57	23	9.66
1.25 - 1.49	50	42.02	35	29.41	85	35.72
1.50 - 1.74	18	15.13	21	17.65	39	16.39
1.75 and above	6	5.04	6	5.04	12	5.04
Total	119	100.00	119	100. 00	238	100.00

$X^2 = 2.01$ df = 3 $P > .50$

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APPENDIX I

TABLE I

EXPENDITURES FOR VOCATIONAL EDUCATION, FISCAL YEAR 1966 c/

	Total	Federal	State	Local
TOTAL	$771,141,879	$228,106,946		
Alabama	18,031,262	24.1%	35.3%	40.6%
Alaska	729,840	49.1%	25.7%	25.2%
Arizona	6,179,702	30.0%	30.9%	37.1%
Arkansas	9,157,514	35.9%	34.5%	29.6%
California	61,067,992	27.2%	1.3%	71.5%
Colorado	6,118,322	55.5%*	7.1%	37.4%
Connecticut	9,539,917	25.0%	66.2%	88.8%
Delaware	2,430,690	25.3%	66.8%	7.9%
Florida	30,865,945	22.2%	18.0%	59.8%
Georgia	19,720,627	34.2%	26.7%	39.1%
Hawaii	2,734,335	36.6%	63.4%	-----
Idaho	2,940,186	37.7%	23.2%	39.1%
Illinois	25,461,226	38.7%	18.5%	42.8%
Indiana	16,100,683	35.1%	10.9%	54.0%
Iowa	8,276,648	41.1%	8.8%	50.1%
Kansas	7,960,435	36.0%	11.4%	52.6%
Kentucky	14,005,952	35.3%	44.3%	20.4%
Louisiana	14,403,915	35.6%	4.5%	59.9%
Maine	2,658,676	40.6%	41.5%	17.9%
Maryland	14,958,853	25.1%	37.0%	37.9%
Massachusetts	26,414,970	19.5%	31.7%	48.8%
Michigan	32,820,856	29.2%	9.3%	61.5%
Minnesota	15,451,761	30.5%	26.2%	43.3%
Mississippi	12,447,791	36.1%	29.9%	34.0%
Missouri	8,881,869	31.2%	10.0%	58.8%
Montana	1,700,851	35.3%	17.6%	47.1%
Nebraska	4,389,810	44.3%	11.2%	44.5%
Nevada	4,763,229	12.2%	7.0%	80.8%
New Hampshire	4,080,963	20.0%	18.0%	62.0%
New Jersey	19,266,510	32.1%	29.8%	38.1%
New Mexico	3,949,576	38.0%	5.6%	56.4%
New York	74,556,120	24.3%	37.1%	38.6%
North Carolina	31,105,583	29.4%	45.8%	24.8%
North Dakota	3,383,710	37.0%	26.3%	36.7%
Ohio	33,091,647	33.2%	30.0%	36.8%
Oklahoma	13,062,263	28.6%	8.4%	63.0%
Oregon	7,302,329	31.5%	31.7%	36.8%
Pennsylvania	40,329,014	31.2%	17.6%	63.0%
Rhode Island	4,051,833	28.7%	57.1%	14.2%
South Carolina	12,887,211	34.1%	36.5%	29.4%
South Dakota	2,878,488	37.5%	8.7%	53.8%
Tennessee	16,981,048	36.2%	31.9%	31.9%
Texas	54,673,850	25,8%	52.6%	21.6%
Utah	6,026,111	23.7%	3.0%	73.3%
Vermont	2,108,453	29.8%	43.3%	26.9%
Virginia	19,437,087	29.1%	32.9%	38.0%
Washington	14,387,099	25.2%	25.6%	49.2%
West Virginia	8,375,107	34.9%	9.4%	55.4%
Wisconsin	19,761,218	25.9%	27.7%	46.4%
Wyoming	232,801	55.6%	-----	44.4%

TABLE II

EXPENDITURES FOR WORK-STUDY 1965-1966

	Federal	State and/ or Local	Percent of Federal Spent on Work-Study
TOTALS	$20,192,878	$528,523	8.97%
Alabama	263,286		6.06%
Alaska	000		
Arizona	190,037		10.15%
Arkansas	348.992		10.62%
California	1,673,186	8,832	10.07%
Colorado	207,697	6,117	6.12%
Connecticut	153,941		6.45%
Delaware	122,460	50,000	19.91%
Florida	748,757		10.93%
Georgia	623,133	1.965	9.24%
Hawaii	107,771		10.80%
Idaho	7,480		6.73%
Illinois	875,781		8.89%
Indiana	208,274		3.68%
Iowa	201,157		7.13%
Kansas	107,921		3.77%
Kentucky	415,559		8.41%
Louisiana	537,117	45,339	10.47%
Maine	38,514		3.56%
Maryland	109,471		
Massachusetts	733,096		14.23%
Michigan	1,037,441		10.82%
Minnesota	306,232		6.50%
Mississippi	500,136		11.13%
Missouri	5,553		.20%
Montana	2,009		.34%
Nebraska	183,350		9.43%
Nevada	45,575		7.84%
New Hampshire	12,589		15.42%
New Jersey	914,011		14.78%
New Mexico	146,539		9.74%
New York	2,717,486		14.99%
North Carolina	572,948		6.26%
North Dakota	109,283	1,755	8.73%
Ohio	448,587		4.08%
Oklahoma	417,388		11.17%
Oregon	189,696		8.25%
Pennsylvania	959,266	218,242	13.51%
Rhode Island	144,994	8,244	6.27%
South Carolina	394,189	19,855	8.97%
South Dakota	25,832		2.93%
Tennessee	628,203	45,494	10.22%
Texas	1,324,053	693	2.42%
Utah	211,840	13,035	9.13%
Vermont	000		
Virginia	161,027		2.84%
Washington	410,643		11.31%
West Virginia	356,232	85,508	12.19%
Wisconsin	234,440	23,444	11.86%
Wyoming	59,706		5.73%

TABLE III

TOTAL ENROLLMENT GRADES 10, 11, 12 and 12 ONLY

PUBLIC HIGH SCHOOLS ONLY

	10, 11, 12	12 only
Alabama	163,508	47,692
Alaska	8,949	2,575
Arizona	66,610	20,252
Arkansas	89,878	27,347
California	831,071	250,388
Colorado	94,042	29,288
Connecticut	102,278	31,766
Delaware	20,402	6,109
Florida	245,059	51,537
Georgia	194,604	81,868
Hawaii	30,379	11,735
Idaho	38,890	13,883
Illinois	376,607	123,057
Indiana	220,205	69,451
Iowa	129,994	48,019
Kansas	107,166	35,717
Kentucky	144,034	40,583
Louisiana	143,037	41,769
Maine	42,416	13,952
Maryland	143,938	43,621
Massachusetts	192,749	58,500
Michigan	342,253	111,000
Minnesota	173,423	54,549
Mississippi	103,023	30,355
Missouri	183,657	57,267
Montana	34,465	10,633
Nebraska	65,810	20,490
Nevada	18,391	5,273
New Hampshire	25,168	7,882
New Jersey	251,000	79,000
New Mexico	51,603	15,754
New York	629,330	180,463
North Carolina	235,205	69,117
North Dakota	31,650	10,012
Ohio	437,787	140,746
Oklahoma	123,868	37,320
Oregon	99,118	31,127
Pennsylvania	463,794	142,507
Rhode Island	20,240	9,238
South Carolina	107,615	34,715
South Dakota	34,687	10,739
Tennessee	167,240	50,287
Texas	446,808	182,488
Utah	55,874	16,491
Vermont	16,301	4,997
Virginia	182,201	54,323
Washington	153,960	49,764
West Virginia	92,855	27,839
Wisconsin	186,362	59,342
Wyoming	17,328	6,031
TOTALS	8,140,920	2,558,858

TABLE IV

CONCURRENT WORK-EDUCATION PROGRAMS

	Work-Study	Agriculture	T & I	D.E.	B.E.	Home Ec	D.O.	Total Cooperative
TOTALS	2704	296	923	2193	846	25	515	4800
Alabama	94	0	68	66	37	0	30	201
Alaska	0	0	0	4	0	0	0	4
Arizona	19	0	9	32	7	0	0	48
Arkansas	152	0	0	21	0	0	17	38
California	126	131	0	86	0	0	0	217
Colorado	44	5	6	37	0	4	0	52
Connecticut	43	0	1	23	3	2	2	33
Delaware	29	0	0	9	0	0	0	9
Florida	78	0	0	60	36	0	142	238
Georgia	13	0	0	43	40	0	75	158
Hawaii	34	0	3	10	5	0	0	18
Idaho	3	0	0	10	9	0	1	20
Illinois	117	11	79	87	35	0	93	305
Indiana	11	10	34	34	2	9	1	90
Iowa	66	00	27	28	31	0	0	86
Kansas	26	5	14	23	16	0	2	60
Kentucky	56	0	0	52	0	0	0	52
Louisiana	111	0	0	35	12	0	0	47
Maine	5	0	10	4	0	0	0	14
Maryland	19	1	6	18	1	0	0	26
Massachusetts	34	0	19	31	8	0	0	58
Michigan	113	97	145	189	201	0	0	632
Minnesota	12	0	13	41	30	0	20	104
Mississippi	119	0	24	18	0	0	0	42
Missouri	108	0	0	0	0	0	77	77

Table IV continued

TABLE IV (continued)

CONCURRENT WORK-EDUCATION PROGRAMS

	Work-Study	Agriculture	T & I	D.E.	B.E.	Home Ec	D.O.	Total Cooperative
Montana	1	0	0	9	0	0	0	9
Nebraska	12	2	3	12	0	0	9	26
Nevada	6	0	0	7	2	0	2	11
New Hampshire	3	0	0	1	0	0	0	1
New Jersey	95	0	48	48	34	0	0	130
New Mexico	32	0	0	17	1	0	3	21
New York	169	0	49	149	69	0	32	299
North Carolina	139	0	110	133	0	0	0	243
North Dakota	33	0	0	12	33	0	0	45
Ohio	49	0	4	113	56	5	0	178
Oklahoma	62	4	22	38	25	0	0	89
Oregon	12	0	0	41	0	0	0	41
Pennsylvania	27	0	0	61	0	0	0	61
Rhode Island	11	6	6	3	0	1	0	16
South Carolina	105	0	26	62	0	0	0	88
South Dakota	2	0	0	12	1	0	2	15
Tennessee	60	0	21	49	0	0	0	70
Texas	220	8	81	221	50	0	2	362
Utah	40	0	2	30	17	4	5	58
Vermont	0	16	2	6	0	0	0	24
Virginia	75	0	90	105	76	0	0	271
Washington	47	0	0	79	0	0	0	79
West Virginia	47	0	0	11	1	0	0	12
Wisconsin	21	0	1	5	5	0	0	11
Wyoming	7	0	0	8	3	0	0	11

TABLE V

CONCURRENT WORK-EDUCATION ENROLLMENT

BY PROGRAM

	TOTALS	HIGH SCHOOLS ONLY
Total Enrollment in Schools with CWE	4,285,587	3,969,847
Total Enrollment in CWE Programs	173,513	161,852
Total Enrollment in Work-Study	52,235	44,817
Total Enrollment in all Cooperative Programs	121,278	117,035
Total Enrollment in Cooperative Distributive Education	59,893	57,479
Total Enrollment in Cooperative Trade and Industry	23,845	22,890
Total Enrollment in Cooperative Business Education	18,248	17,855
Total Enrollment in Diversified Occupations	15,540	15,303
Total Enrollment in Cooperative Agriculture	3,235	3,039
Total Enrollment in Cooperative Home Economics	454	406
Total Enrollment in Cooperative Health Occupations	63	63

APPENDIX II

CODING FORMAT FOR QUESTIONNAIRE

Column	Item
1	Reimbursed Concurrent Work-Education, 1965-1966
2	Reimbursed Concurrent Work-Education, 1966-67
3	Work-Study, 1965-1966
4	Work-Study, 1966-1967
5	Non-Reimbursed Concurrent Work-Education, 1965-1966
6	Non-Reimbursed Concurrent Work-Education, 1966-1967
7	Concurrent Work-Education for Handicapped, 1965-1966
8	Concurrent Work-Education for Handicapped, 1966-1967
9	Blank
10	Number of Programs Participating for Handicapped
11	Blank
12	First or Second Questionnaire Returned

CODING FORMAT FOR DATA COLLECTED FOR EACH SCHOOL WITH A CWE PROGRAM

COLUMN	ITEM	CODE
1 thru 12	school name	
13	blank	
14 thru 26	city	
27	blank	
28	population density	1= the 25 metro areas 2= other std. stat. areas 3= other cities over 50,000 4= cities between 25,000 and 49,999 5= cities 10,000 to 24,999 6= towns 5,000 to 9,999 7= all others
29,30,31,32	total enrollment in grades 10,11, and 12	
33,34	lowest grade in school district	
35,36	highest grade in school district	
37,38	lowest grade in the school	
39,40	highest grade in the school	
41,42	rank order of state on money available to education	
43	classification of school within the state on finance	1= high 2= middle 3= low
44,45,46	enrollment in work-study	
47,48,49	enrollment in coop. agriculture	
50,51,52	enrollment in coop. trade and industry	
53,54,55	enrollment in coop. distributive education	
56,57,58	enrollment in business and office occupations	
59,60,61	enrollment in coop. home economics	
62,63,64	enrollment in coop. experimental programs	
65,66,67	enrollment in coop. health occupations	
68,69,70	enrollments in programs not classified elsewhere	
71,72,73	enrollment in diversified occupations programs	
74,75,76	school I.D.	
77,78	state I.D.	
79,80	card I.D. (03)	

CHECK LIST

FILL IN CORRECT NAMES FROM DIRECTORY BEFORE LEAVING THE OFFICE.
IF NECESSARY MAKE CHANGES DURING VISIT.

________________ State

________________ Researcher

________________ Date

say HELLO to: ________________
State Superintendent of Instruction

Explain Project (briefly) to: ________________
State Director of Vo-Ed

____
Secretary

Visit Supervisors:

________________ Work-Study

________________ Secretary

________________ T & I

________________ Secretary

________________ Agriculture

________________ Secretary

________________ D.E.

________________ Secretary

________________ Business Ed

________________ Secretary

________________ Office Occupations

________________ Secretary

________________ D.O.

________________ Home Economics

________________ Secretary

________________ Other

____

Request:

(1) 4042-4048 forms
(2) State Plan
(3) Areas with CWE
(4) Note Grade Restriction Program

Obtain from each:

Students by:

(1) age
(2) grade
(3) job
(4) school

Obtain from someone:

(1) school enrollments 10, 11, and 12
(2) finances
(3) pertinent publications

Use back of this sheet for anecdotal comments.

UNIVERSITY OF ILLINOIS COLLEGE OF EDUCATION

WERC WORK - EDUCATION RESEARCH CENTER
DEPARTMENT OF VOCATIONAL AND TECHNICAL EDUCATION
57 EAST ARMORY AVENUE
CHAMPAIGN, ILLINOIS 61820
TELEPHONE (217) 333-6178

Dear School Administrator:

Concurrent work-education programs are a rapidly expanding type of educational program. Some educators feel they are especially suitable to the needs of many non-University bound students and, as such, a welcomed addition to the curriculum. It is vital to our national study that you, as a representative of a carefully selected sample of schools, be responsive to this letter.

"Concurrent work-education programs" include all school programs which provide students with formal education and conjunctive work experience. Please *check* the boxes below indicating whether you had various types of concurrent work-education programs in the years noted. Answer completely—positive and negative responses are equally important to us.

65-66	66-67
☐ Yes	☐ Yes
☐ No	☐ No

Reimbursed Cooperative Vocational Education: Program titles such as Distributive Education, Office Occupations, Diversified Occupations as well as many less universal titles are included. Also included are agriculture programs which *intend* to place *all* students in part-time jobs for wages during the regular school year. *Excluded here are (1) vocational programs which occasionally or incidentally place students, and (2) reimbursed cooperative programs described in the categories below.*

65-66	66-67
☐ Yes	☐ Yes
☐ No	☐ No

Work-Study: A program where students in vocational programs, who have need of financial assistance, are placed in public agencies (mainly the local school). This program is defined and subsidized under the provisions of Public Law 88-210.

65-66	66-67
☐ Yes	☐ Yes
☐ No	☐ No

Non-reimbursed Cooperative Vocational Education: These programs may in many respects be similar to "Reimbursed Cooperative Vocational Education" above but they do not receive Federal reimbursement under the provisions of vocational education legislation. *Excluded here are special programs for the "handicapped" described below.*

65-66	66-67
☐ Yes	☐ Yes
☐ No	☐ No

Work-Education for "Handicapped": Students who are not likely to profit from regular academic and vocational offerings are, for our purposes, considered *handicapped*. They may or may not be served by special education personnel. All of the following descriptive terms are applicable to this concept of handicapped: mentally retarded, slow learners, reluctant learners, potential dropouts, economically disadvantaged, culturally deprived, and alienated.

N = ( ) How many *distinct types* of work-education programs are provided *particularly for* handicapped students? (Excluding Work-Study.)

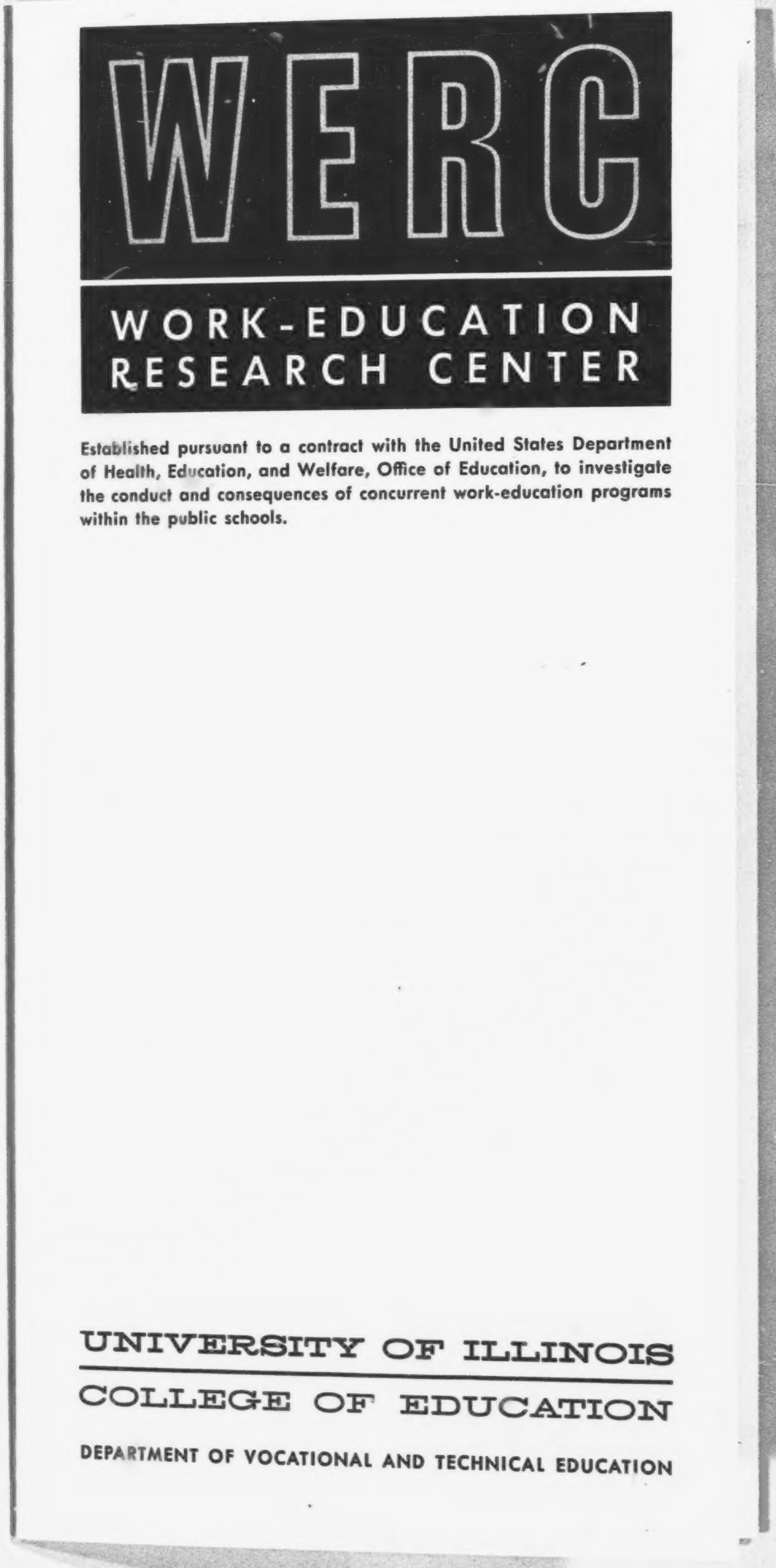
Sincerely and appreciatively,

William John Schill

William John Schill
Project Director

____
Respondent's Name

____
Respondent's Position



WERC

WORK-EDUCATION RESEARCH CENTER

Established pursuant to a contract with the United States Department of Health, Education, and Welfare, Office of Education, to investigate the conduct and consequences of concurrent work-education programs within the public schools.

UNIVERSITY OF ILLINOIS

COLLEGE OF EDUCATION

DEPARTMENT OF VOCATIONAL AND TECHNICAL EDUCATION

WERC CONCURRENT WORK-EDUCATION PROGRAMS

CONDUCT AND CONSEQUENCES

Concurrent work-education is an old educational concept that has grown in application during the past few years. Regardless of the reasons for the recent growth of concurrent work-education programs, it is essential that a nationwide assessment be conducted if the overall planning activity of vocational and technical education is to be properly guided. This project is designed to satisfy the need for a nationwide assessment.

DEFINITION

The term "concurrent work-education programs" includes all public high school and junior college programs that provide students with formal education and conjunctive work experience. This definition is broad enough to include programs encompassed by various other general titles in common usage such as *Cooperative Education, Work Education,* and *Work Experience.* More specific titles within the realm of concurrent work-education programs include: *Distributive Education* (D.E.), *Office Occupations* (O.O.), *Diversified Occupations* (D.O.), and many other but usually less universal titles such as *Part-time Industrial Cooperative Education* and *Agri-business.* Recently, the term *work-study* has been specifically defined under Public Law 88-210, and it, too, is included. It is the intent of the above definition, therefore, that any and all programs which satisfy the criteria noted be included in this study. Differences in usage of terminology shall not eliminate programs from this study.

RESEARCH FORMAT

This project has two interrelated parts or phases: (a) a descriptive study of the conduct or status of concurrent work-education programs in each of the 50 states, and (b) an in-depth study of the consequences of concurrent work-education programs at thirty sites.

CONDUCT (DESCRIPTIVE PHASE):

There are over 1,500 concurrent work-education programs among 27,000 public high schools and an unknown number of programs in the more than 500 junior colleges in the United States. Work-education data and methods of collection and reporting data differ from state to state. This phase will attempt to systematize and consolidate the data that exist relative to concurrent work-education programs in the various governmental offices throughout the 50 states and the District of Columbia.

It is expected that the records at U.S.O.E. and the 50 state offices of public instruction will provide some of the following data about concurrent work-education programs:

1. Number of students in concurrent work-education programs by occupational area and sex.
2. Names of schools with concurrent work-education programs and the pertinent school official names.
3. Type of federal assistance given each program and the approximate per cent of the federal contribution to the total cost.
4. Type and number of professional personnel assigned to concurrent work-education programs.

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In instances where the data are incomplete, data will be solicited from individual schools.

Direct contact with a 10 per cent sample of senior high schools in the United States will be conducted to identify schools operating concurrent work-education programs without financial assistance from the federal government.

CONSEQUENCES (DEPTH STUDY PHASE):

There are many objectives of concurrent work-education programs. Desirable as these objectives may be, the extent to which concurrent work-education contributes to their realization has yet to be tested. The degree to which these objectives are realized can provide a measure of assessment of the various types of concurrent work-education programs. This assessment will also include the relative accessibility of the programs to the students and the extent to which employers are willing to cooperate by providing work stations.

From the universe of concurrent work-education programs, an atypical sample of 30 schools with two or more concurrent work-education programs will be selected for study in greater depth. The selection of this sample will be the responsibility of the project director and, in each case, will require the consent of pertinent school administrators.

It is not intended that 30 schools will provide statistical reliability which permits generalization to concurrent work-education programs across the country. However, the 30 schools selected will provide data which will illuminate the relationships between the characteristics of particular programs and changes in student behavior.

DATA COLLECTION, ANALYSIS, AND DISTRIBUTION OF REPORT

The University of Illinois is responsible for the compilation and analysis of all data. However, to minimize travel and expedite data collection, professors from five other institutions are involved in the actual data collection. The research staff at the University of Illinois has collected the data from U.S.O.E. and selected midwestern state offices, refining the format for use by the regional data collectors.

Most of the data are quantitative and consequently can be reported in raw form with measures of central tendency. All data collected will be held in strict confidence by the professional research staff. No individual or institution will be identifiable in the reports. Upon completion of the study, the final report will be made available upon request free of charge to all participating programs, agencies, organizations, and individuals.

CONDUCTED BY:

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END

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